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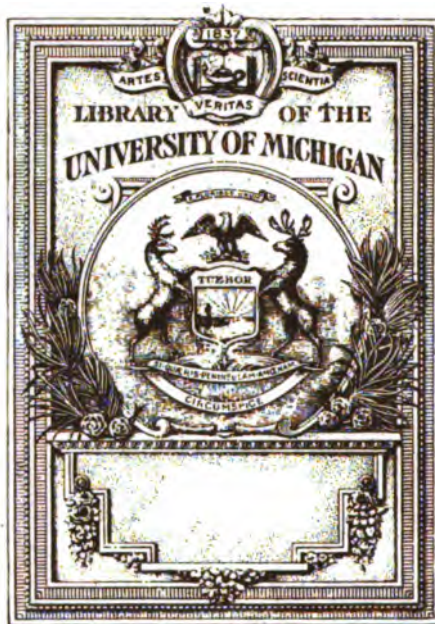
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TWENTY-FIRST ANNUAL REPORT

OF THE

DAIRY AND FOOD COMMISSIONER

OF THE

STATE OF MICHIGAN

FOR THE

YEAR ENDING JUNE 30, 1914.



BY AUTHORITY

LANSING, MICHIGAN
WYNKOOP HALLENBECK CRAWFORD CO., STATE PRINTERS
1915



Joe W. Helms

MICHIGAN DAIRY AND FOOD DEPARTMENT.

JAMES W. HELME.....	Commissioner
BURR B. LINCOLN.....	Deputy Commissioner
F. L. SHANNON.....	State Analyst
M. J. SMITH.....	Chief Clerk
L. H. VAN WORMER.....	Assistant Chemist
MISS IDA M. HARRIS.....	Bookkeeper
MISS GERTRUDE VALLIERE.....	Stenographer
MISS PAULINE PHILLIPS.....	Stenographer
MISS NAN CHILDS.....	Chemist
W. C. GEAGLEY.....	Chemist
MISS GLADYS DAME.....	Clerk
JOHN T. ROWE.....	Regular Inspector
C. V. JONES.....	Regular Inspector
WM. T. HULSCHER.....	Regular Inspector
JAMES E. HELBER.....	Regular Inspector
HENRY F. COLLINS.....	Regular Inspector
WM. J. MICKEL.....	Regular Inspector
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CHAS. R. WEBB.....	Regular Inspector
D. J. FARRELL.....	Special Inspector
H. D. WENDT.....	Special Inspector
J. P. FETZ.....	Special Inspector
A. H. RAIKE.....	Special Inspector
E. H. SHULER.....	Clerk and Messenger

DRUG INSPECTION.

A. R. TODD.....	Drug Analyst
M. A. JONES.....	Drug Inspector
CHAS. A. BUGBEE.....	Drug Inspector

SUGAR BEET INSPECTION.

ROLAND MOSER.....	Inspector
ELLSWORTH O. ELMER.....	Inspector

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EXECUTIVE, LABORATORY, CLERICAL AND INSPECTION FORCE OF THE MICHIGAN DAIRY
WIVES, PRESENT AT THE ANNUAL BANQUET OF THE DEPARTMENT AT LANSING, JANUARY 24, 1918.



Rear row standing, left to right: Inspector C. V. Jones, Mrs. Fraser, Inspector Geo. H. Brownell, Inspector Chas. R. Webb, Inspector D. J. Farrell, Mrs. James E. Helber, Inspector James E. Helber, Mrs. R. E. Woodruff, Inspector R. E. Woodruff, Inspector H. D. Wendt, Anna Smith, Gladys Dame, Mrs. D. A. Nichols, Inspector D. A. Nichols, Drug Inspector M. A. Jones, Inspector A. H. Raake, Assistant Chemist L. H. Van Wormer, Chief Clerk M. J. Smith, Mrs. James W. Helme, Commissioner James W. Helme, Mrs. Burr B. Lincoln, Deputy Commissioner Burr B. Lincoln, State Analyst F. L. Shannon, Ida Harris, Inspector Henry F. Collins, Mrs. L. H. Van Wormer.
Group seated in front, left to right: Gertrude Valliere, Inspector W. T. Hulscher, Inspector John T. Rowe, Mrs. C. A. Bugbee, Drug Inspector C. A. Bugbee, Inspector W. J. Mickel, Mrs. W. J. Mickel.

LETTER OF TRANSMITTAL.

DAIRY AND FOOD DEPARTMENT,
Lansing, Michigan.

Hon. Woodbridge N. Ferris, Governor:

Sir: In accordance with the provisions of the act creating the Dairy and Food Department, I herewith transmit to you the report of the operations of this department in detail for the year ending July 1st, 1914.

This report includes the first full fiscal year that I have been in charge of the department and in this connection I wish to renew the recommendation that I made a year ago—that the term of the Commissioner should expire with the end of the fiscal year. My term as Commissioner will expire December 31st next while the fiscal year begins July 1st. There is nothing to prevent me from spending the entire annual appropriation during the next six months leaving my successor without even enough to pay his salary. It has sometimes happened in the past in this department that the operations of a new Commissioner have been seriously hampered by the fact that his predecessor has spent an undue share of the appropriations of the Department.

FINANCES.

The annual appropriation for the support of the department is \$35,000 and in addition it derives certain license revenues from creameries, milk dealers, ice cream manufacturers and stock food manufacturers. During the past fiscal year over \$18,000 was collected from these various sources giving the department an available fund for the fiscal year of \$53,889.55. This is the largest amount by several thousand ever collected by the department.

During the year there has been expended in the operations of the department a sum of \$43,918.32 leaving a balance which was covered into the State Treasury at the end of the fiscal year of \$9,971.23.

The Drug Department is given a yearly appropriation of \$6,000. Of this there was expended during the year \$5,946.86, leaving a balance to be covered into the State Treasury of \$53.14.

Combining the two, after running the department for the fiscal year, there was covered back into the State Treasury of unused appropriation the total sum of \$10,024.37. I regard this as a highly successful financial showing for these reasons. The new Weights & Measures Law which provided that the enforcement of the same should be by this department, took effect August 15, 1913, shortly after the beginning of the fiscal year. It resulted in many extra expenses for equipment, for inspectors, for state standards and many traveling expenses to set the law in successful operation, and the fact that in spite of these expenses

I could cover back over \$10,000 unused appropriation into the State Treasury, shows that with all our increased work, we have run the department in an economical manner.

INSPECTIONS DURING THE YEAR.

There were employed during the year on an average of eight regular food inspectors whose duties it was to inspect grocery stores, restaurants, hotels and other places where food is stored or sold; four dairy inspectors whose business it was to inspect the milk supply of cities and the creameries, cheese factories, etc., of the state; two drug inspectors to inspect drug stores. These inspectors made a total number of 17,318 inspections. Of these 12,159 were inspections of grocery stores and other food supply institutions including hotels and bakeries. Two thousand four hundred and nine were inspections of farm dairies, creameries, cheese factories and other milk product manufactories. Two thousand four hundred and sixty-one were inspections of drug establishments.

This record shows a slight decrease in the number of inspections over the previous year. The reason for the decrease is because the time of the inspectors has been somewhat taken up by inspecting weights and measures. We have endeavored to post all inspectors on the common defects that are liable to be found in weights and measures and in each store they enter they are now required, in addition to inspecting the food supplies, to give attention to weights and measures in use and these inspections necessarily take up some time in the inspection of the establishment and are not listed as extra inspections under our system.

During the year I have had two practical expert cheese and butter-makers devote their entire time to the inspection and giving of educational information to these establishments. They have inspected 443 creameries, 50 cheese factories, 94 dairies and 226 sources of city milk supply.

The number of food samples sent in by the inspectors during the year was 1719 which on being analyzed 1002 were found to be legal and 717 were found to be either adulterated or misbranded. Of the 571 drug samples sent in by the drug inspectors, 357 were found to be legal and 214 illegal. In the stock food department we analyzed about 108 concentrated feeds during the year.

The number of samples taken up and analyzed is less than in former years but I regard this as a mark of progress. When inspectors visit the stores they are constantly on the watch for adulterations or misbrandings but they only take up samples to be sent to the department of which they are in doubt or suspicious. The vigorous administration of the department in the last two years has driven a large number of abuses out of the state and, as a consequence, our inspectors do not find as many doubtful samples and consequently fewer are sent to the laboratory.

PROSECUTIONS.

The prosecutions during the year have been greater than in any previous year of this department being about five times as many in number as the average in the department previous to my assuming the office of

Commissioner. I believe that it is necessary to have a certain number of prosecutions in order to effectively enforce our food laws. While the great object of the department is educational, still education must always proceed with prosecution. A great majority of people will listen to reason and obey the laws from educational reasons, but there is always a small and stubborn minority whose education can only be properly accomplished with a club. The policy of the department has always been to warn offending parties on the first offense and never to prosecute them until after such warning except in cases of malicious and wilful violation of the law. I have never prosecuted any man for a technical violation. I have always insisted that before prosecution was commenced we should have a violation of the spirit of the law as well as the letter of the law.

At the beginning of the year there were eighteen cases pending in the courts of the state. During the year we have commenced 276 prosecutions of the Drug, Food and Weights & Measures Laws of the State. We have secured 222 convictions. There were 12 acquittals, 26 discharges and 34 cases are now pending. I would state that the 26 discharges are cases which we have voluntarily dismissed before trial, most of them on the ground that the party had promised to do better or had otherwise squared himself with the department.

EDUCATIONAL WORK.

The law creating the Dairy & Food Department provides that this department shall give educational work and foster and improve the dairy industries of the state. I have continued the line of educational work that I mapped out in my last report. Certain lines of educational work for the dairy interests have not been pushed by me for the reason that the Agricultural College and Farmers' Institutes were already in that field and giving efficient service but I have confined the educational work of the department to such topics that are not being handled by any other state department thus avoiding duplication of effort and putting all our energy upon those things that seemed important to the people of the State.

Whenever the Commissioner has been asked to address dairy meetings in the State, he has always done so but he has not encouraged the holding of dairy meetings because that field is already filled by two state departments. On the other hand the Commissioner has addressed a large number of meetings upon the food and drug laws of the State, which have been held by Housewives' Leagues, Woman's Clubs, Wholesale and Retail Grocers' Associations, Druggists' Associations, and Granges and Farmers' Clubs. These meetings, I am satisfied, have been productive of much good. They not only inform the people as to what the Food Laws are and what possible adulterations they may meet in their ordinary buying, but it also helps the inspectors of our department in the enforcement of the law. By informing the public of the various food laws, it forms the buyers into a great moral police force which is constantly on the lookout for violations of the Food and Drug Laws.

I have revised and had reprinted a second edition of our pamphlet on "Foods & Food Values." There has been a large demand for this pamph-

let from schools in the state for text book purposes and from Woman's Clubs for educational purposes and there has also been considerable call for it outside of the state in various educational institutions.

We have been compelled to print a second edition of our bulletin showing farmers how to construct a model cow stall and demands for this pamphlet have come from every state in the Union.

I have continued the issuing of press bulletins from time to time on various food and drug subjects and these bulletins have been generally printed in full by from 75 to 100 papers of the State thus making them of much educational value. Many of our press bulletins have been reprinted in leading papers throughout the country.

We have continued the educational scoring contests of butter at various points in the state and at each contest the number of entries has increased, and the creamery men who participate in these conferences are greatly encouraged by the benefit they derive therefrom.

I have prepared a pamphlet on the care of cream by the producers. A very large edition of this pamphlet was printed and sent to the various creameries and cream buying stations of the state. These in turn distributed the pamphlets to the cream producing farmer and good results are reported from this campaign. In fact New York markets report a distinct improvement in the quality of Michigan butter probably to the extent of 2c a pound which is attributed largely to the educational work of this department. If we have increased the price of Michigan butter a cent a pound as the result of our efforts, such increase would more than pay the entire expenses of this department for the year.

In conjunction with the State Board of Health an educational train was sent through a large part of the Lower Peninsula last August. Transportation and cars were furnished free by the railroad companies. The State Board of Health equipped one car and our Department the other. Our car was equipped with the latest apparatus in dairy lines, a large number of samples showing many common adulterations and misbrandings in food products and with a weights and measures exhibit showing many common abuses in this line, and a large amount of educational literature was distributed on food and drug and weights and measures topics.

We have compiled into a pamphlet our exposes of various deceptions in stock foods and patent medicines lines. We have named this pamphlet "Fakes & Frauds" and there has been an enormous demand for the same.

WEIGHTS AND MEASURES.

The last legislature passed a modern Weights & Measures Law and placed the enforcement of the same with this department. It has been enforced now not quite a year but it has already proved to be of vast benefit to the State. No appropriation was made by the legislature for its enforcement but we have accomplished a great deal with our regular force. As the activities of this Department developed to a very large extent, I concluded it would be well to have one man in charge of it and I therefore appointed Deputy Commissioner Lincoln to assume charge of the Weights and Measures Branch of our Department, which he has

done in a very efficient manner. His report in detail on the operations of this department will be found on subsequent pages.

COMMISSION MERCHANTS.

The last legislature placed under this department the supervision of all commission men of the state. The law did not take effect until Oct. 1. At that time sixty-two commission merchants registered with us paying registration fees to the amount of \$1,365. The law provides that any shipper may make a complaint to this department against any commission man and it becomes our duty to investigate the same and bring about an adjustment between the parties if possible. Failing in this we may take away the commission man's license if we are convinced that he is in the wrong. The existence of this law was not generally known to shippers and only a few complaints have been made to the department during its operation. In each of these cases a satisfactory adjustment was obtained by the shipper from the commission man. I believe that when the existence of this law becomes better known, it will prove of great benefit to the producer and the commission man.

BET SUGAR INSPECTION.

The last legislature added to our department the inspection of sugar beet testing. The sugar beet companies pay a tax into the State Treasury sufficient to take care of all expenses of our operations. Under the law in conjunction with the Chemists of the Agricultural College, our Chemist prepared a uniform method which all sugar companies were compelled to adopt in the testing of sugar beets and I appointed two inspectors, Mr. Ellsworth Elmer and Mr. Roland Moser, who were experienced sugar beet chemists, to superintend the operations of the companies. That their superintendence has been successful and has been beneficial to the farmers of the state is shown by the fact that the average tests of sugar beets at the factories during the past campaign were upwards of 15% sugar content as against 12% to 14% of previous years. Some other operations of the law relative to taring and weighing beets have not worked as well as the testing part of the law and I believe some changes must be made in the law before we will have satisfactory operations along this line. It should be understood that this law was passed at the request of the sugar beet companies and they are paying the entire expense of its operations.

NEEDED LEGISLATION.

At the next session of the legislature, I shall endeavor to have that body adopt legislation to further increase the efficiency of this department.

One thing much needed is a Pure Drink Law. It is of little value to enforce pure food legislation if the drinks of the state are adulterated. The state is full of whiskey that has never seen a still and full of cheap wines that have never seen a grape or other fruit but are the product of laboratories in our large cities. As long as people insist on drinking alcoholic liquors, it is certainly the correct policy to see that the liquors they drink are as pure and wholesome as those liquors can be made.

The license fees that could be derived from licensing various brands of all kinds of hard and soft drinks would be paid entirely by people out side of the state and I believe would be sufficient in amount to make this department self-supporting. There are many abuses in various drinks and dopes which are sold by the soda fountains of the state and these can only be controlled efficiently by compelling them all to register with this department and in that way we will be able to eliminate all harmful soft drinks and also those which are frauds upon the consumer.

Our dairy laws have been passed from time to time during the last twenty years until they occupy considerable volumn in the statute books and there are many duplications and some contradictions. I shall endeavor to revise all these laws in one act which I hope the legislature will pass as no radical changes in the laws are contemplated.

During the summer of 1913 I discovered a large amount of illegal selling of habit-forming drugs in the City of Detroit. After obtaining conclusive evidence on these sales, an endeavor was made to prosecute when it was discovered that various defects existed in our laws relative to habit-forming drugs, sufficiently so that convictions were defeated. I shall prepare for the consideration of the legislature a new law on habit-forming drugs which I hope will be sufficiently drastic to suppress this traffic within the state.

Since the organization of this department there has been on the statute books a law providing for the seizure and condemnation of adulterated foods. Attempts to use this law have been defeated owing to certain omissions that should be added to the law to make it effective. Briefly, the law provides that whenever an inspector shall have reason to believe that any food article is adulterated or in violation of Michigan law, that he may seize the same and seal it and leave it in the possession of the owner and send a sample to the State Analyst for analysis. If the certificate of the State Analyst shows the article to be in violation of the law, then a summons is issued to the interested party commanding him to appear before a court within ten days and show cause why the article should not be condemned and destroyed. The defect in the law is that no penalty is provided for the removal and sale of the article during the pending of these proceedings. As a result we have found that usually when we seized articles under this law, by the time we got the certificate of analysis and our court proceedings perfected, the articles would be disposed of. For that reason our law should be amended providing a penalty for any person who shall sell or dispose of any article we have seized during the pending of proceedings which shall determine whether or not the article is adulterated.

Legislation is also needed to regulate the cold storage of food products and also the sanitary condition of country slaughter houses.

IN CONCLUSION.

In conclusion I feel that the operations of this department during the past year have been the most extensive in its history and the most successful. The addition of three new branches to our department has greatly increased our work. Our correspondence has doubled and the records show that this year we have done five times as much educational work and five times as much police work as was ever before done in the

history of the department. Notwithstanding this, we have made no increase in our clerical force or inspection force and the turning back of \$10,000 into the State Treasury at the end of the year shows that we have ample funds for all present necessities and that the department has been run in an economical and businesslike manner.

I wish to tender my sincere thanks to every employe in the department. All have been loyal to the department and enthusiastic in its work and have worked harmoniously together thus giving us that team work that is essential to the successful conduct of any enterprise, public or private.

Respectfully submitted,

JAMES W. HELME,
State Dairy & Food Commissioner.

FOODS AND FOOD VALUES WITH SUGGESTIONS HOW TO REDUCE THE COST OF LIVING.

THE SCIENCE OF NUTRITION.

In the State of Michigan are located a great many manufacturing establishments. If we enter one of these establishments we will find that the source of power and energy that runs it will be found in the engine room in the form of the iron boiler and engine; but in order to properly operate the boiler and engine certain things are necessary. The first thing necessary is fuel of some sort to feed the boiler. This is generally furnished in the form of coal or wood which are, chemically speaking, carbohydrates. It is also necessary to have water to make the steam and this steam acts as a distributor of the heat and energy produced by the burning of the carbohydrates. It is also necessary to have oil in order that the machinery will run free and smooth without friction, and, finally, as in the operation of boilers and engines, they are subject to constant wear, it is necessary from time to time to repair them. These repairs must necessarily be composed of the material with which the boiler and engine is composed.

The human body may be likened to an engine. In fact it is the most wonderful producer of heat and power that can possibly be imagined and in order to properly operate this engine, the same things are necessary as to successfully operate the iron boiler and engine. It is necessary, first, to have fuel to feed the human engine and this fuel is in the form of carbohydrates like the fuel of the iron engine. Those foods which are taken into the human body which are composed largely of fat and starch, are the carbohydrates which are burned in the body to produce heat and energy. There are a large number of foods that contain these carbohydrates just as there are a large number of fuels that can be burned in the iron engine. The engineer may burn mahogany and rosewood and thus get up steam but it is economy for him to select that fuel which is cheapest and most abundant which is generally soft coal. In the food fed to the human body to produce heat and energy we could exercise a like economy. The cheapest forms of carbohydrates burned in the human body to produce heat and energy are the starch foods such as potatoes, wheat, corn and oats.

Just as oil is necessary to produce the smooth running of the iron engine so certain foods are necessary to produce like results in the human body. These foods are various fruits. In themselves they have but little food value so to speak, but the effects of their acids, succulence and bulk make them the natural oil that gives to the organs of the human engine a smoother and more effective operation. The human body is composed largely of water. The water is used in the digestive processes and for distributing the materials necessary to the repair of the body through the blood, and so it is necessary to consume a large amount of water daily in order to distribute the heat and energy produced by the human boiler.

And finally, the human body, like the factory engine, is con-

stantly wearing out and must be repaired, and to repair the human engine, like the iron engine, we must have foods of the same material of which the body is composed. The muscular system of the body is composed of a substance that the scientists call protein and so in our foods in order to effect the necessary repairs, we should consume a certain amount of food that contains this substance called protein. This is found largely in the flesh of animals, milk and eggs and to a small extent in the various cereals and vegetables although some vegetables, like peas and beans, have a very large amount of protein in their composition. In selecting the necessary protein foods for the repair of the human body, we can again be guided by the cost and select such protein foods as we find will furnish that element at the lowest possible cost.

THE VALUE OF FOODS.

Many people fail to realize that the primary use of foods is to supply the body with warmth, energy and the necessary materials for rebuilding such parts of the body as have been worn out in the act of living. The pangs of hunger are simply the outcry of nature that necessary material shall be supplied to repair bodily wastes and furnish fuel to create energy to run the human machine.

When we satisfy the pangs of hunger we are apt to do so without much regard as to the suitability of the food used or its comparative cost with other foods of similar composition.

Years ago the dairyman discovered he must feed a "balanced" ration to the dairy cow; that is, a ration containing a certain amount of "carbohydrates" to furnish the cow with heat and energy, and a certain amount of "protein" to repair the muscular system and produce milk. But the dairyman did not stop here. After examining the composition of different food stuffs suitable for the cow's consumption, he found that "carbohydrates" and "protein" were much more expensive in some foods than in others. He thereupon selected such foods as were the cheapest and yet would "balance" the cow's ration. In other words he selected not only a "balanced" but an economical ration.

THE HIGH COST OF LIVING.

Much discussion is now being had over the high cost of living. The tremendous advance in the prices of nearly all food stuffs has brought much hardship to the masses of people.

Both political parties in their platforms promise investigation and possible relief from the high cost of living. These investigations will be long drawn out and relief, if any, that can be had by legislation will be uncertain and long delayed. The object of this bulletin will be an endeavor to give the consumer immediate partial relief by pointing out the value and price of various food stuffs, their uses in building up the body and the cheapest foods that are available for those purposes. A study of the science of food values and application of the same will effect large reductions in the cost of living.

THE USES OF FOOD CONSTITUENTS.

We have before stated that some foods supplied warmth and energy to the body. These are different kinds of force, one of which can be

changed into the other. Many of these foods do not assist in repairing the waste of the body, because they do not contain the necessary elements of which the body is composed; hence the warmth and energy foods must be supplemented by foods that contain the materials of which the body is composed. It will be therefore necessary for the proper understanding of the food question to know the composition of the body and the foods necessary for it. The constituents of food are for these purposes divided into five classes: Fat, Carbohydrates, Protein, Mineral matter and water.

Fat is found in animal products such as meat, butter, cheese and milk; also in the oils of the olive and cotton seed and in various nuts. Grains like oats and corn also have considerable fat.

These fats or oils furnish force to the body in the form of heat and energy. A given weight of fat produces more than twice as much energy as the same weight of sugar or starch foods.

If more fat is taken than the system demands, the surplus fat may be stored in the body as fat to serve as a source of heat and energy at some future time if needed.

Fat does not produce muscular tissue but by chemical processes is virtually "burned" in the body to produce power.

Carbohydrates are substances which are so named because they consist of carbon, hydrogen and oxygen. The most common carbohydrates are the sugars such as milk sugar, cane sugar and grape sugar; starches, which are the principal parts of wheat, corn and other cereals and also of vegetables like the potato. Carbohydrates also furnish power and energy to the body like the fats but only about half as much. They may be changed in the body to fat and stored up for future use. Like fat carbohydrates do not produce muscular tissue.

Protein (Pro-te-in) is a name applied to a large class of substances containing nitrogen such as lean meat, the white of eggs, the casein of milk, the gluten of flour and other cereals. Protein in foods is used by the body to repair and grow the muscular tissue. It is the most important of the food stuffs and generally the most expensive to buy. It can also be used for heat and power like the fats and carbohydrates but should not be, as the former are not as expensive.

Mineral matter in food is the ash left after the food is burned. The mineral matter of the body consists of phosphate of lime, of which the bones are composed and compounds of sodium, magnesium, Potassium and iron which are found in the blood and the muscular tissue in small amounts.

Mineral matter occurs more or less in all foods in sufficient quantities for bodily needs so that but little heed may be given it in formulating a balanced ration for human consumption.

Water—more than half the weight of the human body is water. It is absolutely essential to life as it helps perform the processes of digestion, distributes the food material to all parts of the body and maintains the body at a uniform temperature. It is a natural constituent of all foods and being abundant in nature no attention is given to it in formulating a ration.

These different classes of food materials occur combined in nearly all foods, but the relative amount of the different substances varies and occasionally in some foods one is entirely absent.

The average human body contains about 15% fat, 18% protein, carbohydrates 10%, mineral matter 6% and water 60%.

The charts shown in this bulletin give the relative amount of different food constituents in our most common foods.

One term given in the illustrations has not been explained. We have noticed that fat and carbohydrates are actually burned up in the body to produce heat and power. Every fuel gives out a definite quantity of heat when it is burned and the value of the fuel is determined by the amount of heat produced by a pound of it. A "Calory" is the unit for measuring heat, just as a pound is the unit for measuring weight. A Calory is the amount of heat necessary to raise the temperature of one liter of water one degree.

The tables following the charts are tabulated from them, and show in a better form the relative amount of the various constituents in our common foods. It will be noticed that vegetable foods are generally high in carbohydrates and animal foods high in fats, while the amounts of protein in both animal and vegetable foods may run as high as 25%. Different foods vary greatly in this respect.

It has been estimated that a man at hard work requires $3\frac{1}{3}$ ounces of protein, $3\frac{1}{3}$ ounces of fat and $17\frac{1}{3}$ ounces of carbohydrates to meet the demands of the system each day.

The last two tables have been arranged to show the cheapest source of protein and the cheapest source of power and energy in the foods mentioned in the previous tables.

The first table shows the amount of protein in each of these different foods that can be furnished for one cent, and the foods are arranged in the order of the amounts supplied at that price as estimated upon the cost per pound given in the preceding column. The second table is arranged in a similar manner with reference to the heat and energy furnished.

Neither table shows the relative amount of food value obtained for the same price. As heat and energy and muscle building material are all necessary for the support of life, the two tables must be considered together in determining the relative food values. The fuel value of food may be determined from the analysis. To determine the number of calories per pound, multiply the sum of the per cent of carbohydrates and protein by 18.6. To this product add the product of the per cent of fat multiplied by 42.2.

THE PALATABILITY OF RATIONS.

The dairyman knows that his milch cow demands $2\frac{1}{2}$ pounds of protein and a proportionate amount of carbohydrates. These he gives the cow from the cheapest foods available but he recognizes one exception, that is the ration must be palatable. The cow must like it or she will not do well on it. Likewise palatability is a necessary thing in human eating. We notice from the tables given that the cheapest thing that

human beings can eat which contain the necessary food constituents are oats, corn, wheat and rye. But the human stomach is not as large or powerful as the bovine stomach, and a strictly grain diet would

Chart I Milk and Milk Products.

U.S. Department of Agriculture
Office of Experiment Stations
A.C. True, Director

Prepared by
C.F. LANGWORTHY
Expert in Charge of Nutrition Investigations

COMPOSITION OF FOOD MATERIALS.



Protein



Fat



Carbohydrates



Ash

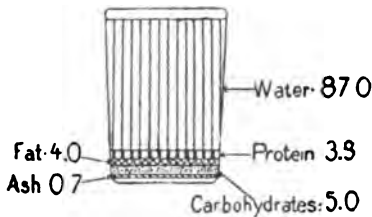


Water



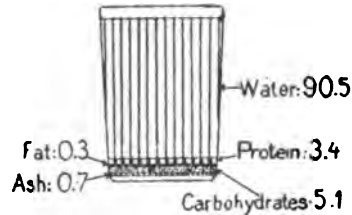
Fuel Value
4 Sq. In. Equals
1000 Calories

WHOLE MILK



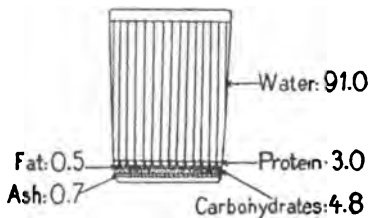
FUEL VALUE: 310 CALORIES PER POUND

SKIM MILK



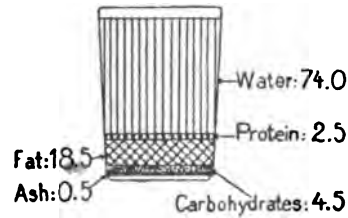
FUEL VALUE: 165 CALORIES PER POUND

BUTTERMILK



FUEL VALUE: 160 CALORIES PER POUND

CREAM



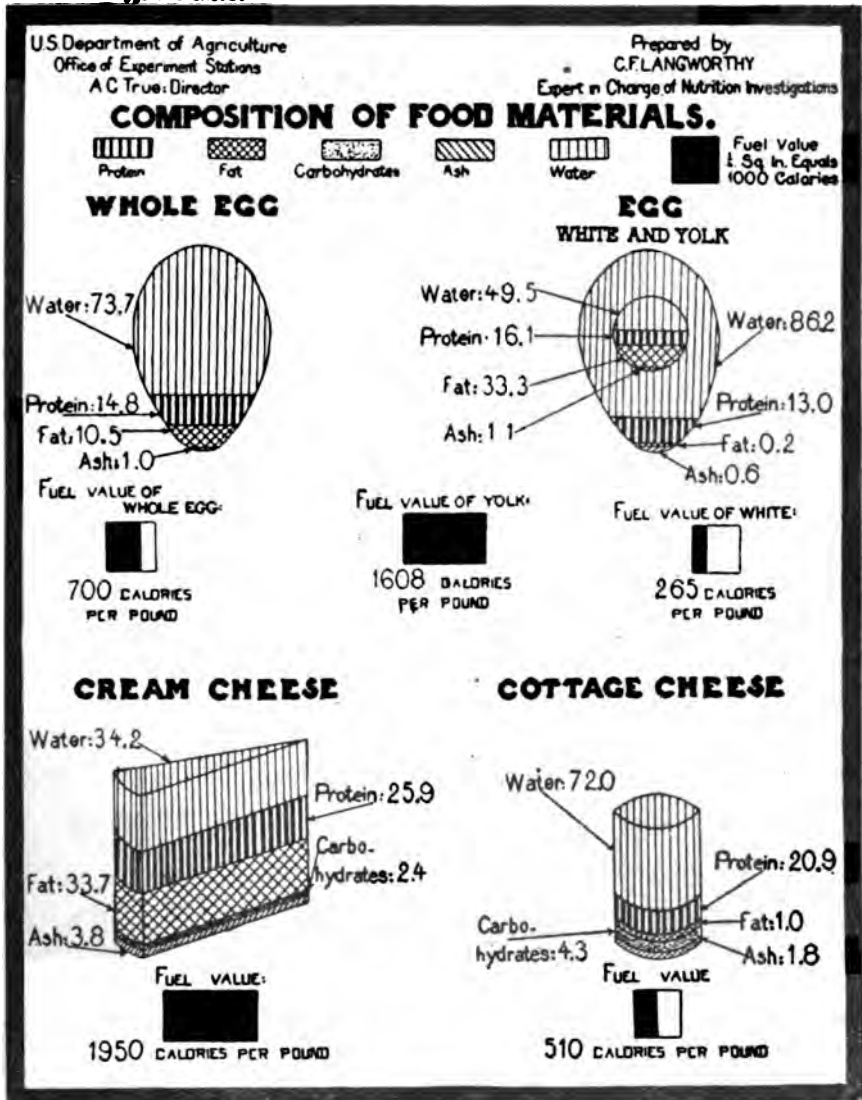
FUEL VALUE: 865 CALORIES PER POUND

lack palatability and variety, both of which must be considered in formulating the human ration.

PROTEIN IN THE RATION.

By far the most important item in human food is the protein part of the ration. It is this element that must be had to repair the waste

Chart 2 Eggs and Cheese.

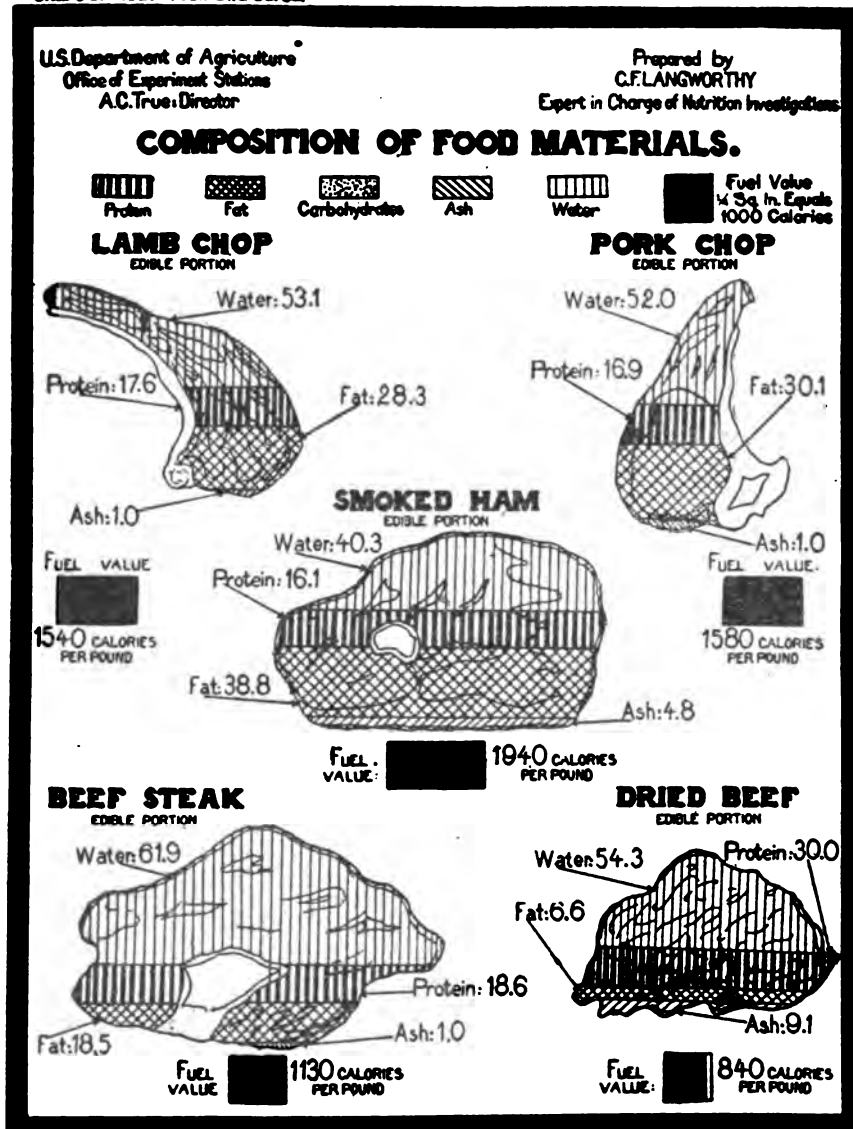


of the muscular tissue of the body. Being the scarcest of the food elements, it is the highest in price and a material reduction in living cost can be had if we select those protein foods that are relatively cheap. The cost of $3\frac{1}{3}$ oz. of protein in a day's ration in oats, corn or wheat would be about $2\frac{1}{3}$ cents but as these foods are low in protein a man

would have to eat about 2 pounds a day of these foods to secure the necessary protein. We must, therefore, select foods that are richer in protein.

Most people depend on meat for the protein element. But a days' ration of protein in beef, pork or lamb would cost 18 cents. The com-

Chart 3. Meat Fresh and Cured.

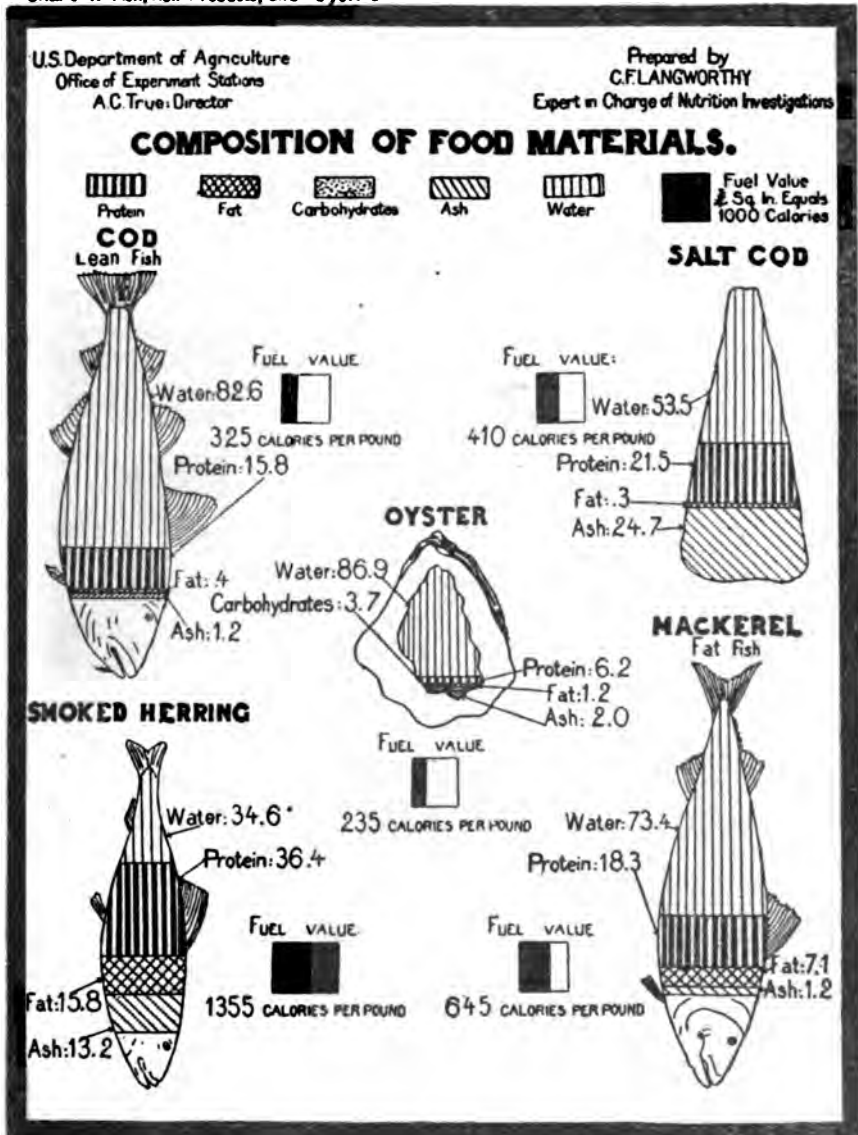


mon white or navy bean contains a large amount of protein, and a days' ration of protein in beans would cost less than 5 cents.

Other cheap sources of protein are as follows: The price in cents being the price of $3\frac{1}{3}$ ounces of protein in the foods named which is

the amount needed by a healthy man at hard work. Cottage cheese, 9 cents; skim milk, 14 cents; cream cheese, 16 cents. The figures here given should not be entirely relied on for many of the foods having a high protein cost have also a large value in fats and carbohydrates

Chart 4. Fish, Fish Products, and Oysters



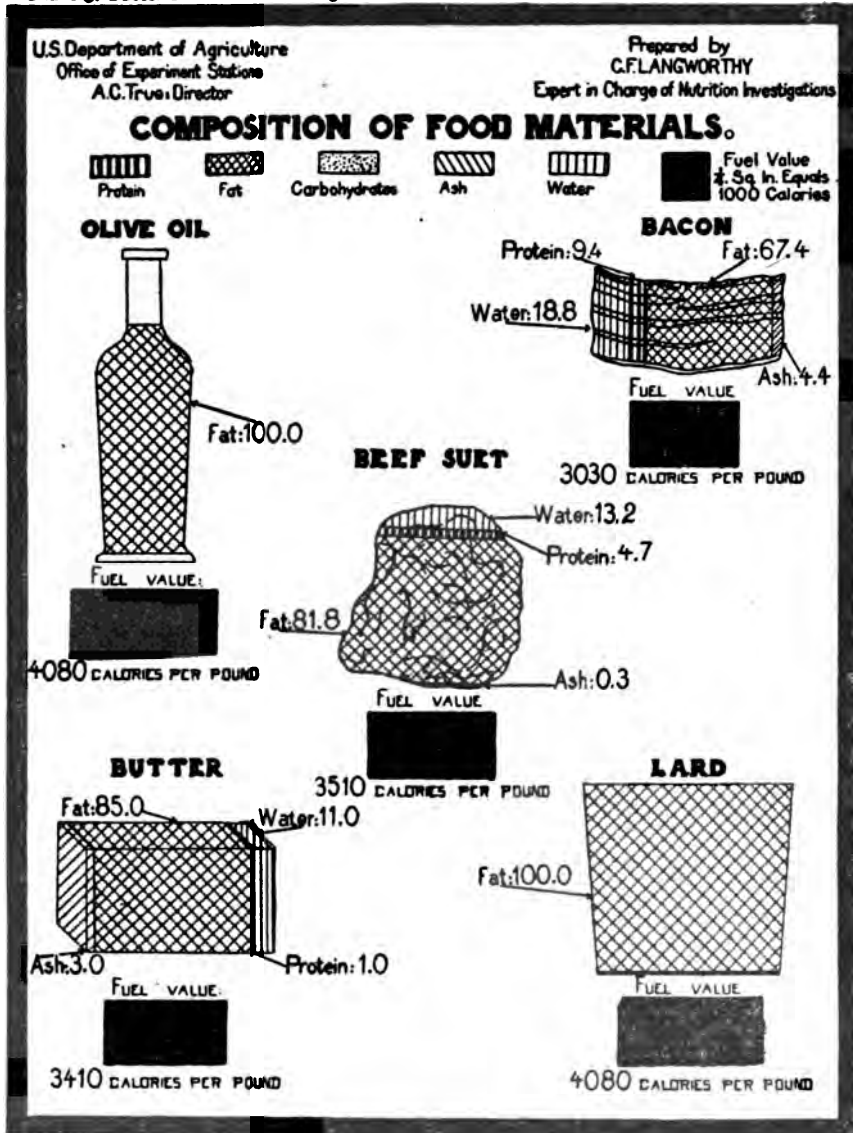
and both must be considered in making up a ration. We desire at this time, however, to call especial attention to the value of beans as food. They have a very large available quantity of protein exceeding meat in that respect and the price is very low. Moreover the State of Michi-

gan raises more and better beans than any state in the union and eating beans not only saves money for the consumer but helps a Michigan industry.

HEAT AND POWER IN THE RATION.

For energy and heat the working man must be supplied with $17\frac{1}{3}$ oz.

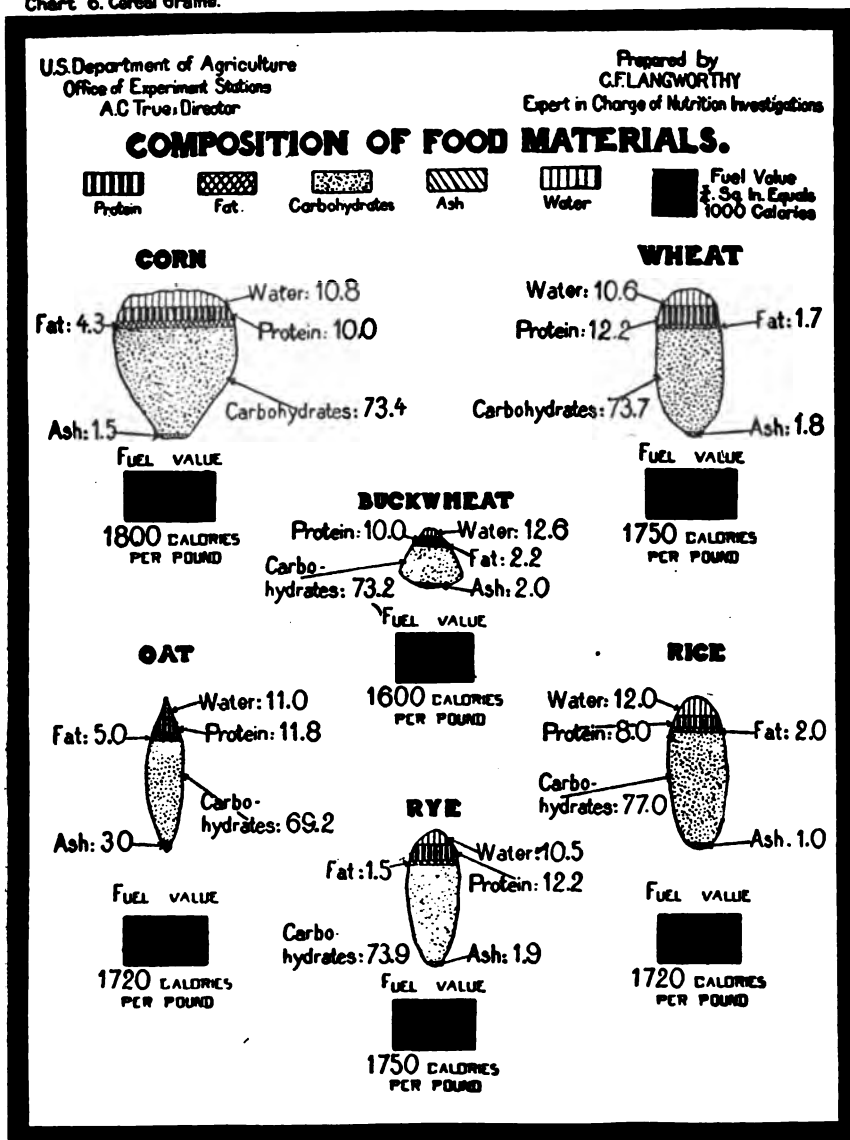
Chart 5. Butter and other Fat-Yielding Foods.



of carbohydrates. For this the various grains like oats, corn and wheat rank very high also the sugars, but by far the most available, both from cost and the standpoint of health is the potato. The carbohydrates in

the potato are more easily digested than those of the cereals and besides the potato contains a large amount of mineral salts necessary for the maintenance of bodily health. Michigan produces more bushels of potatoes than any state in the union with one exception and we can help our health, our pockets and our state by eating more potatoes.

Chart 6. Cereal Grains.

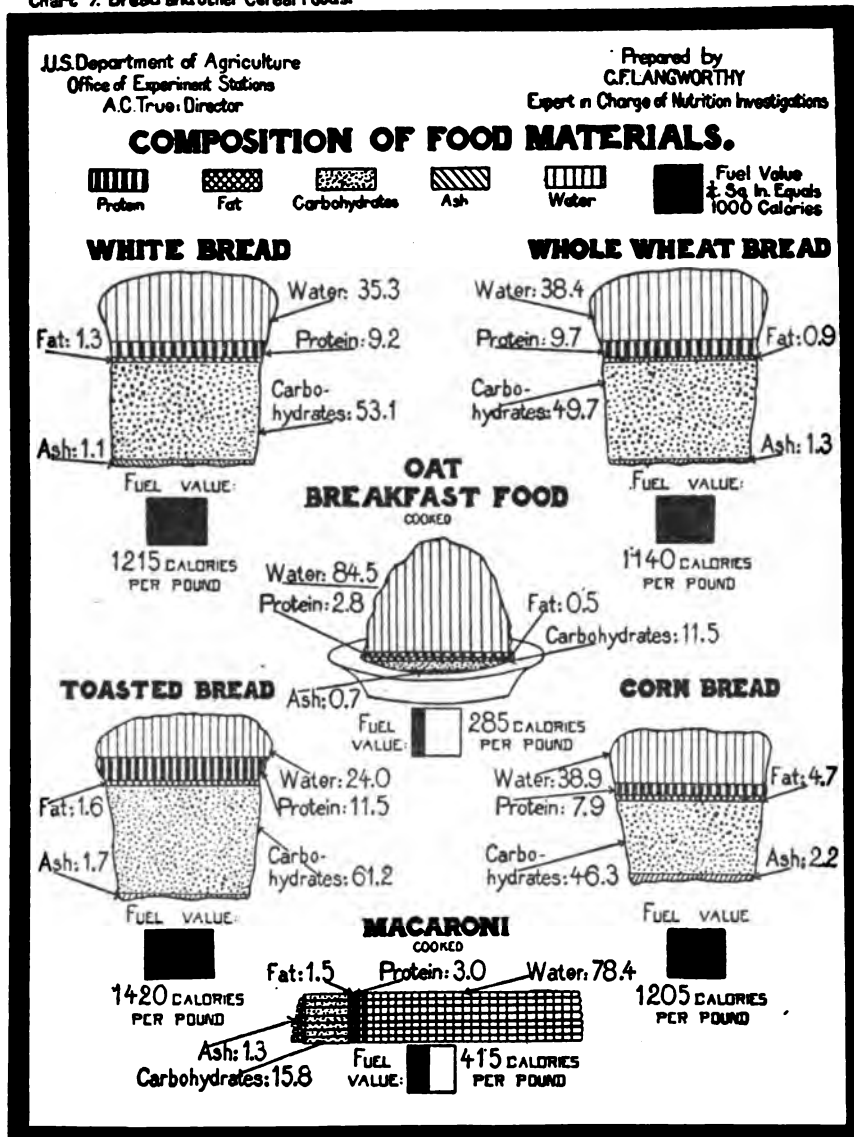


In this bulletin we reprint an article on the potato as a food by Dr. J. H. Kellogg, head of the famous Sanitarium at Battle Creek. We ask a careful perusal of the same as it is probably the best article that has ever been written on the subject.

SOME SUGGESTIONS AS TO WASTE IN FOODS.

In recent years many foods have been put up by the manufacturer in paper packages; while these packages are both convenient and sani-

Chart 7. Bread and other Cereal Foods.

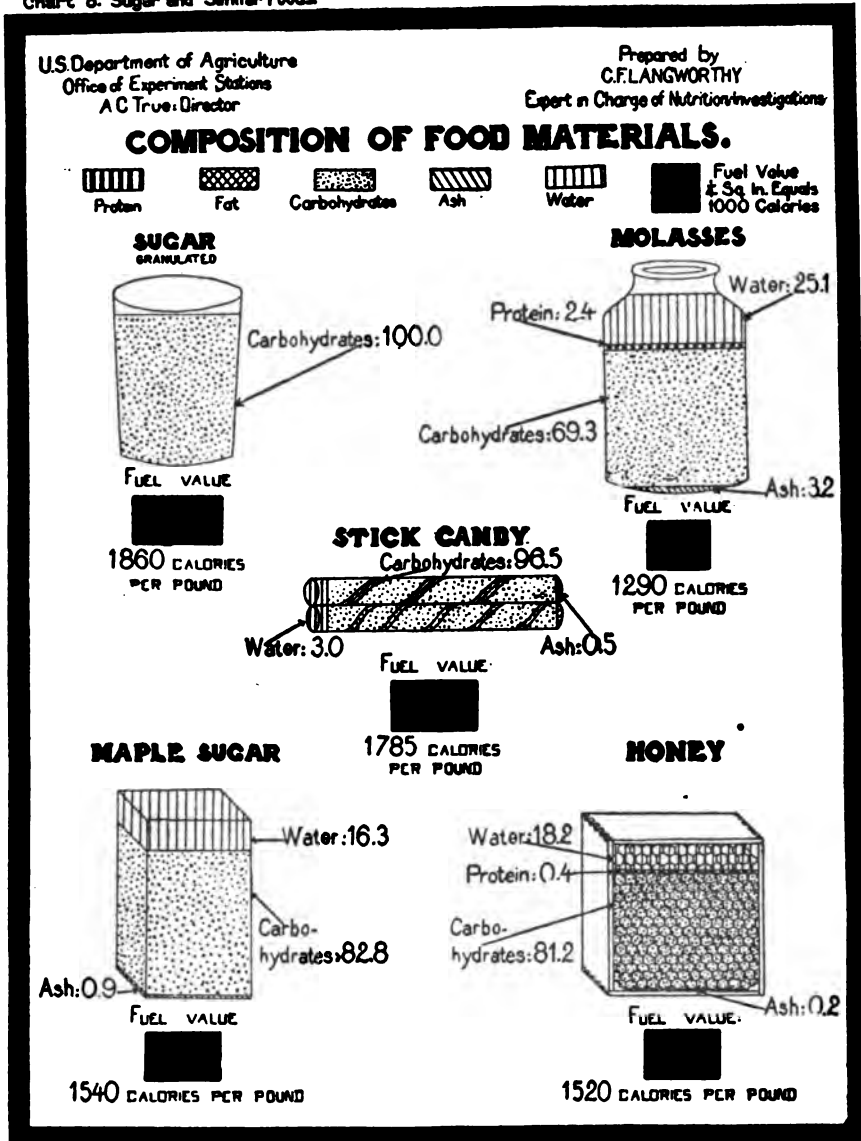


tary, the purchase of food therein is often very expensive to the consumer. Take the breakfast foods for example. The net weight of a package of corn flakes is 8 ounces. Now the package is simply corn and its food values can not be of any greater value than an equal

amount of corn meal. When the consumer gives ten cents for a package of corn flakes he is simply paying \$400 a ton for corn meal.

Take the wheat breakfast foods. The net weight of a package of

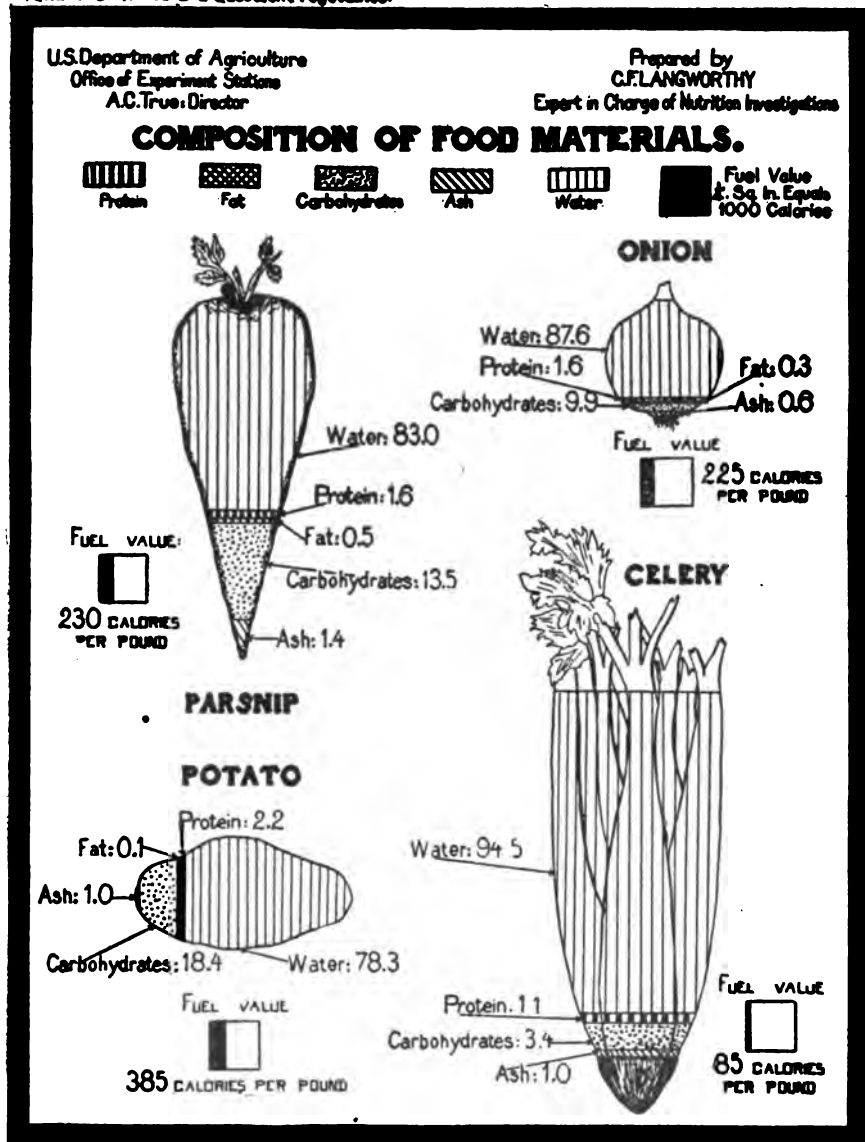
Chart 8. Sugar and Similar Foods.



wheat breakfast food is 12 to 16 ounces and it sells for 10 cents a package. It contains no more food value than an equal amount of wheat and at this price the consumer is paying \$9.00 to \$12.00 a bushel for wheat. In these foods the package costs more than the food, yet we throw the package away and wonder at the high cost of living.

A certain manufacturer of Corn Flakes in an advertising circular criticises the above statement as contained in the first edition of this bulletin. He maintains that it takes thousands of dollars worth of

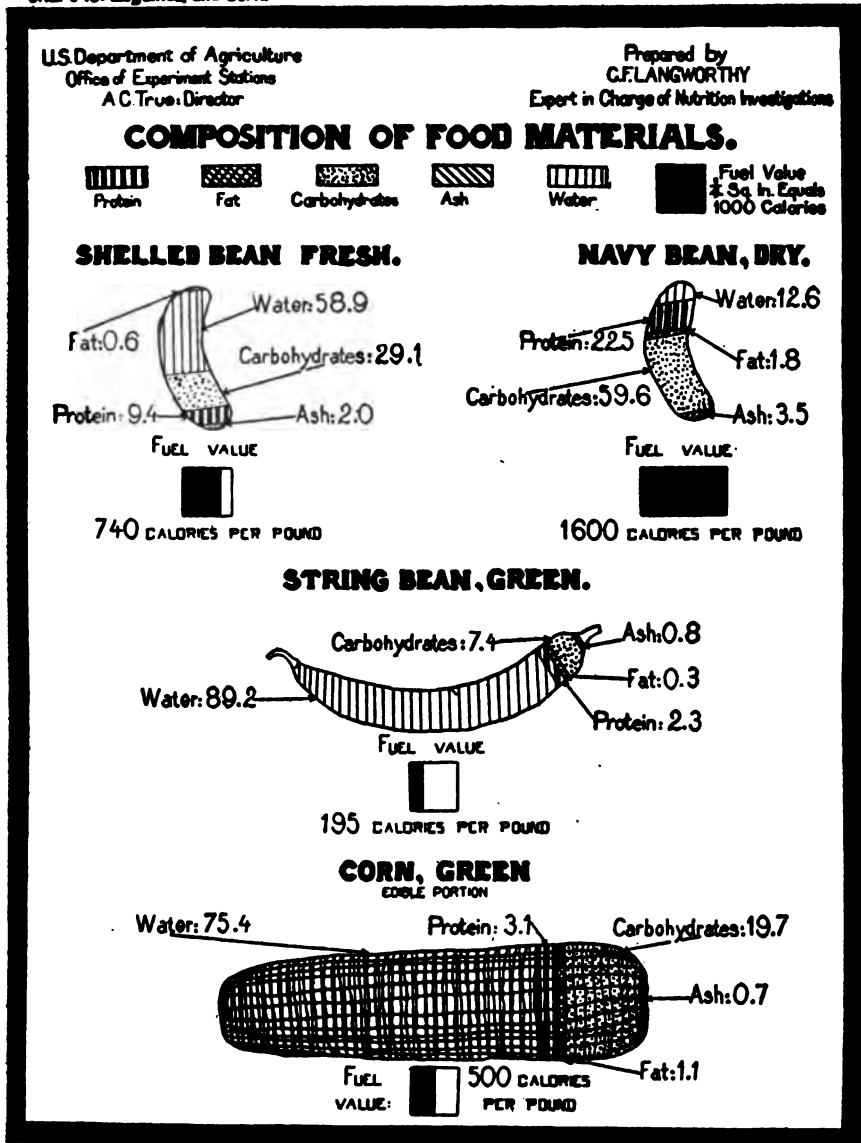
Chart 9. Roots and Succulent Vegetables.



machinery to convert the corn into corn flakes and implies thereby that there must be added value created to the Corn Flakes. He uses the illustration that the leather in a \$3 pair of shoes only cost 10c but by manufacturing processes this leather is created into a \$3 product. While this may be true of shoes, it is not true of foods. No manufac-

turer by any process of manufacture ever put food value into any food product. Nothing but nature can manufacture food value. If shoes were edible, as they sometimes are with polar explorers, there is not a

Chart 10. Legumes, and Corn.



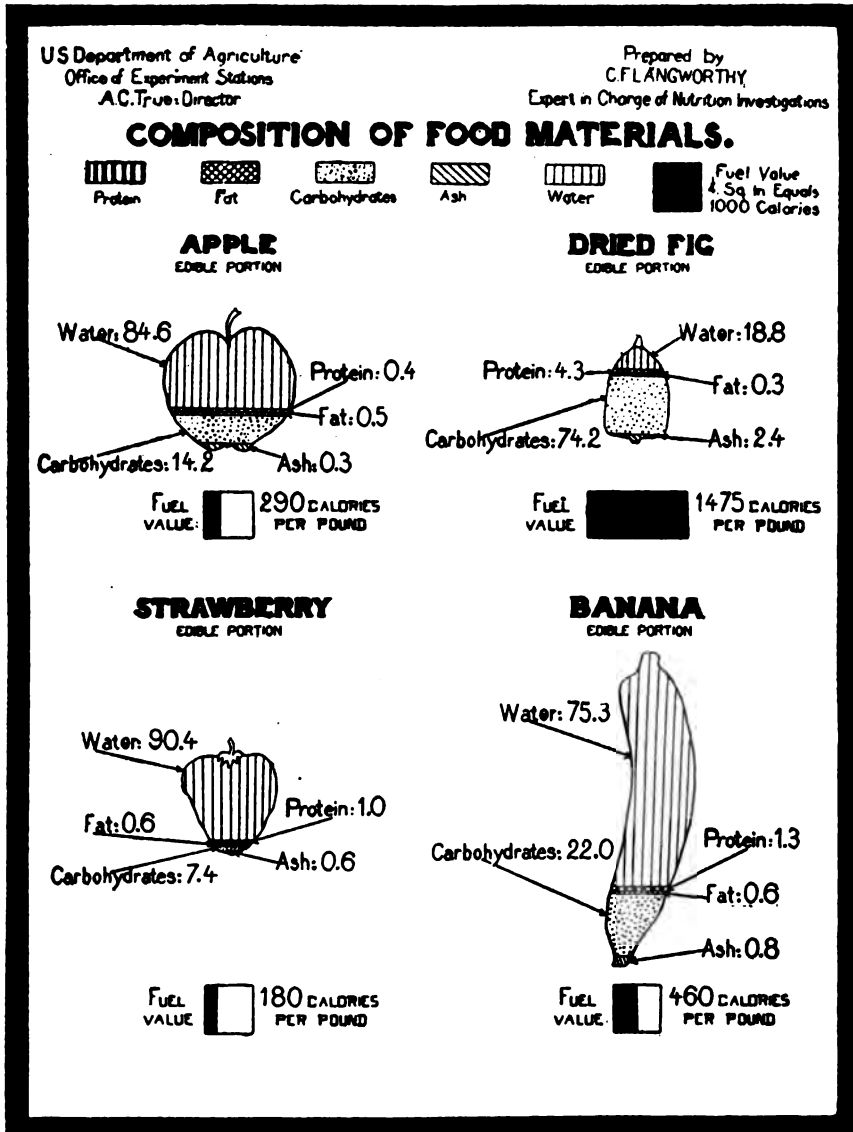
bit more food value in a pair of shoes that cost \$3 to make than there is in the 10c worth of hide from which they were made.

The net weight of a package of biscuit crackers is 5 ounces for which you pay 5 cents or 16 cents a pound. Crackers of equal food value can be purchased for 8 cents a pound in bulk.

Bulletin No. 2 of the Kansas State Board of Health, says:

"The statements so often made in the advertisements of breakfast foods, that their particular product has a special nutritive value not found in the grain or cereal from which it is made is on its face entirely

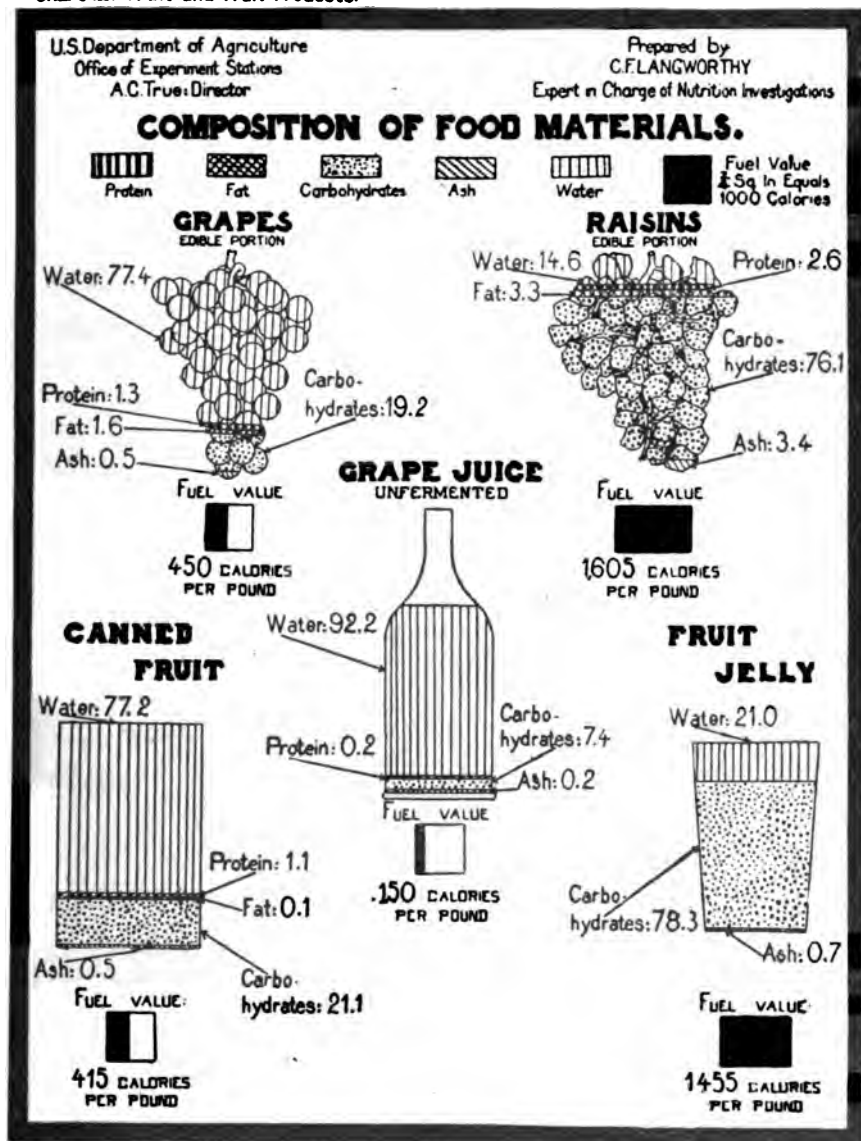
Chart II. Fresh and Dried Fruit



false. The retail price of these products is from two to five times the price of meal or flour made from the same grains. From a standpoint of economy, therefore, these products have no legitimate ground for existence."

The Bulletin of the Main Agricultural Experiment Station for 1906 quotes the cost in cents per pound of some of these cereal foods: Quaker Oats, 3 cents; Cream of Wheat, 8.8 cents; Grape Nuts, 14 cents; Shredded Whole Wheat, 15 cents; Force, 16 cents; Flaked Rice, 18

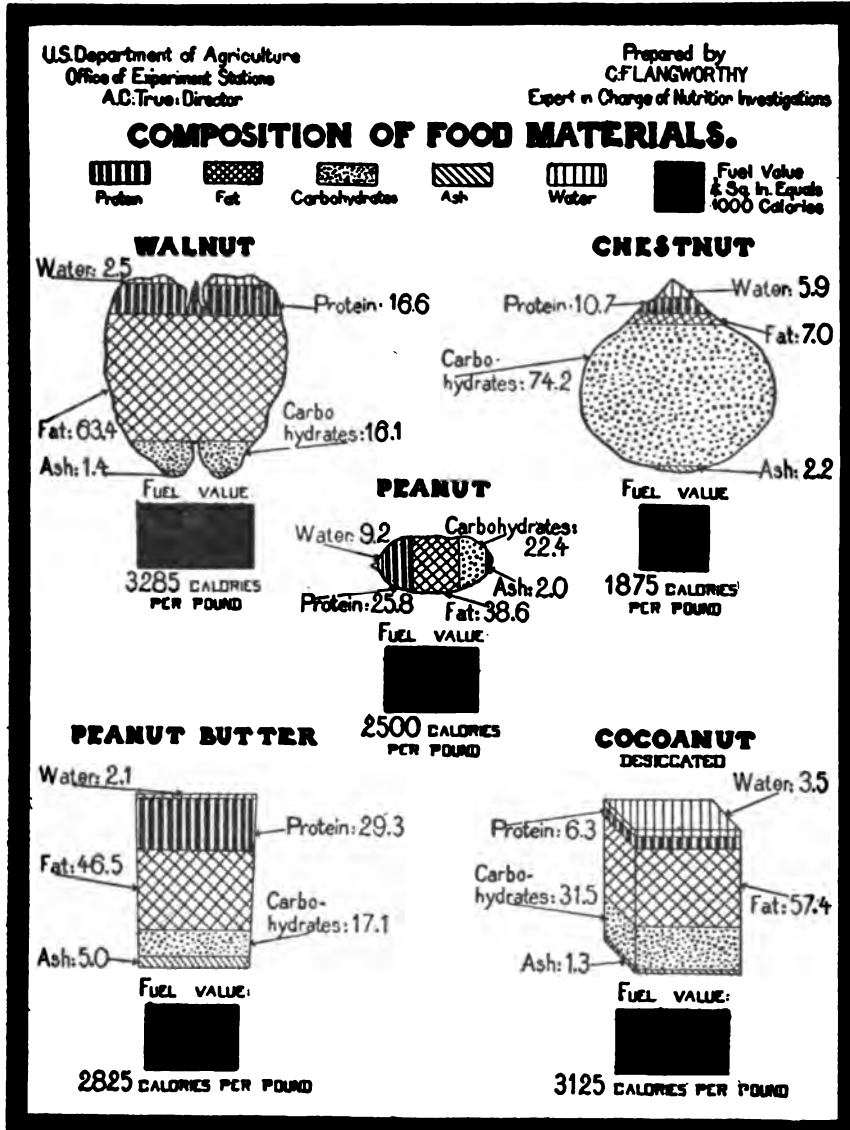
Chart 12. Fruit and Fruit Products.



cents; Granula, 27 cents, and Prof. E. H. S. Bailey, food analyst for the State Board of Health, in an article in December Popular Science Monthly, adds the following: Kellogg's Corn Flakes, 20 cents; Maple Corn Flakes, 14 cents; Post Toasties, 14 cents; Grape Sugar Flakes, 17

cents; Malta Vita, 18 cents; Sugar Corn Flakes, 20 cents; Holland Rusk, 22 cents, and Puffed Wheat, 29 cents. Professor Bailey then comments as follows: "At this rate a bushel of wheat, which might be originally worth one dollar, would when made into a breakfast food

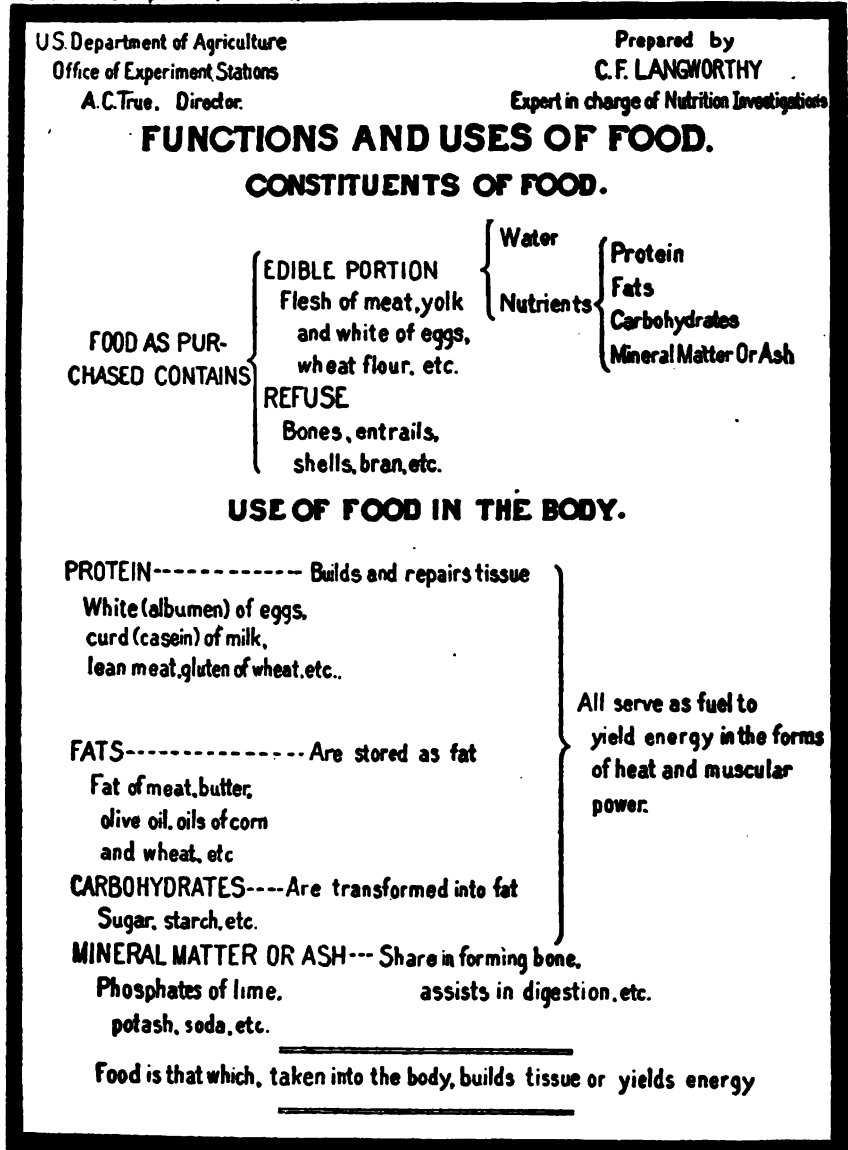
Chart 13. Nuts and Nut Products.



cost the housekeeper from five to twelve dollars, calculating that 75 per cent of the grain is available as food, as is the case in making wheat flour. Oatmeal in bulk sells at five cents a pound, and simple preparations of other grains at from five to seven cents."

"These are a few of the illustrations to show 'where the money goes,' or at least some of it, expended in the ordinary household. Some of us are living on the luxuries of the market, and use them as food to

Chart 14. Composition, Functions, And Uses Of Food.



furnish the proteids and carbohydrates and fat for daily consumption. Instead of using the oak and maple and pine for fuel, we are feeding the fire with mahogany and Circassian walnut and rare imported woods."

CHEAP CEREALS.

Cereals for the breakfast table seem to be necessary and they are very cheap when obtained directly from the grain itself. Plain Oatmeal and cracked wheat make the best cereals at a very small expense. A

Chart 15 Dietary Standards.

U.S. Department of Agriculture
Office of Experiment Stations
A.C. True, Director

Prepared by
C.F. LANGWORTHY
Expert in charge of Nutrition Investigations

DIETARY STANDARDS.

**DIETARY STANDARD FOR MAN IN FULL VIGOR
AT MODERATE MUSCULAR WORK.**

Condition considered	Protein	Energy
	Grams	Calories
Food as purchased	115	3,800
Food eaten	100	3,500
Food digested	95	3,200

ESTIMATED AMOUNT OF MINERAL MATTER**REQUIRED PER MAN PER DAY.**

	Grams		Grams
Phosphoric acid (P_2O_5)	3 to 4	Calcium oxid	0.7 to 1.0
Sulphuric acid (SO_3)	2 to 3.5	Magnesium oxid	0.3 to 0.5
Potassium oxid	2 to 3	Iron	0.006 to 0.012
Sodium oxid	4 to 6	Chlorin	6 to 8

much greater food value is obtained in these forms at much less expense than in the manufactured products.

Millionaire food manufacturers and electric signs in every city are all paid for by the consumer and do him little if any good.

The wife of the writer recently went out and bought a bushel of wheat (60) pounds of a farmer for \$1.00. She procured a small grinder and grinds it coarse for breakfast food, and fine for graham gems. The breakfast food is cooked for 48 hours, a fireless cooker being used part of the time; in this way she has a superior article of food at a minimum cost.

A loaf of bakers' bread weighs 14 ounces and sells for five cents. The cost of the raw material in the bread is $2\frac{1}{4}$ cents. The bread averages from 57 to 62% water. Whether the housewife can save by making her own bread is a question for each to decide. The cost of $2\frac{1}{4}$ cents is for raw material at wholesale price.

White bread should be avoided as it lacks the bran which contains all the mineral elements of the wheat. The bran contains phosphate of lime, which builds up the bone. We give the following recipe for

BRAN CAKES.

First mix together one cupful white flour and three cupfuls wheat bran. Beat together one egg, two tablespoons molasses, a pinch of salt, a cupful of sour cream, a teaspoonful soda, and stir into this sufficient of the bran flour to make a batter that will run on the tins when dropped from the spoon. Sour milk and a small piece of butter may be used instead of the sour cream, and sweet milk with baking powder may also be used, but care must be taken not to stir them too stiff.

FRUITS AS FOOD.

It will be noticed in the tables that fruits and certain vegetables have a very low food value. They should not for this reason be discarded.

Their large bulk and the various acids in the fruits aid greatly in processes of digestion and are nature's remedies in the curing of many derangements of the digestive system. The citric acid of the lemon and orange is good for liver derangements and the malic acid of the apple is an invigorator of bowel action.

As the best remedy to take fat off the system, Dr. Kellogg advises a fruit diet. The bulkiness of the fruit allays the hunger craving while its low nutritive food value does not tend to pile up flesh or fat on the body no matter in how large quantities it is consumed.

THE VALUES OF MILK AS FOOD.

One of the most valuable foods for human consumption is milk and it may be largely used as a substitute for meat. A quart of milk (cost 8 cents) furnished .016 pounds of protein and 78 calories of fuel value for each cent invested. A pound of beefsteak costing 17 cents gives .011 pounds of protein and 67 calories of fuel value for each cent expended. It will be seen that a quart of milk has a greater food value than a pound of beefsteak and costs less than half as much.

Considered from the standpoint of food values, one of the cheapest and best foods is ice cream although by most people it is considered a luxury. Cottage cheese has also a high food value and can be used as a substitute for meat.

We give below a table showing the relative values of a large number of foods as compared with milk at 8 cents per quart.

Each of these foods contains the same amount of nutritive material as one quart of milk.

AMOUNT.

Kind of Food.	Cost.	No. or measure.	Weight.		Total cost.
			Pounds.	Ounces.	
Milk.....	\$0.08 per qt.....	1 quart...	2	2	\$0.08
Cheese (Full Cream).....	0.22 per lb.....			5.4	0.07
Eggs.....	0.35 per doz.....	8		15	0.23
Beef steak.....	0.22 per lb.....			9.3	0.13
Salt codfish.....	0.15 per lb.....		1	9	0.23
White bread.....	0.05 per lb.....			8.7	0.03
Corn meal.....	0.03 per lb.....			5.8	0.01
Potatoes.....	1.00 per bu. (60 lbs.).....		1	11.4	0.03
Cabbage.....	0.025 per lb.....	1 head...	4	2.2	0.10
Dried beans.....	0.06 per lb.....			6.6	0.025
Oranges.....	0.40 per doz.....	8	2	14	0.23
Apples.....	0.60 per peck.....		2	4.6	0.09
Bananas.....	0.20 per doz.....	4	1	6	0.07
Prunes.....	0.15 per lb.....			6.6	0.06
Nuts.....	0.60 per lb.....			4.5	0.17

COMPOSITION OF FOOD MATERIALS.

Kind of Food.	Protein.	Fat.	Carbohy- drates.	Ash.	Water.	Fuel value calories per pound.
Olive oil.....		100.0				4080
Bacon.....	9.4	67.4		4.4	18.8	3030
Beef suet.....	4.7	81.8		0.3	13.2	3510
Butter.....	1.0	85.0		3.0	11.0	3410
Lard.....		100.0				4080
Whole milk.....	3.3	4.0	5.0	0.7	87.0	310
Skim milk.....	3.4	0.3	5.1	0.7	90.5	165
Buttermilk.....	3.0	0.5	4.8	0.7	91.0	160
Cream.....	2.5	18.5	4.5	0.5	74.0	865
Whole egg.....	14.8	10.5		1.0	73.7	700
White of egg.....	13.0	0.2		0.6	86.2	265
Yolk of egg.....	16.1	33.3		1.1	49.5	1608
Cream cheese.....	25.9	33.7	2.4	3.8	34.2	1950
Cottage cheese.....	20.9	1.0	4.3	1.8	72.0	510
Lamb chop.....	17.6	28.3		1.0	53.1	1540
Pork chop.....	16.9	30.1		1.0	52.0	1580
Smoked ham.....	16.1	38.8		4.8	40.3	1940
Beef steak.....	18.6	18.5		1.0	61.9	1130
Dried beef.....	30.0	6.6		9.1	54.3	840
Cod lean fish.....	15.8	.4		1.2	82.6	325
Salt cod.....	21.5	.3		24.7	53.5	410
Oyster.....	6.2	1.2	3.7	2.0	86.9	225
Smoked herring.....	36.4	15.8		13.2	34.6	1355
Mackerel, fresh.....	18.3	7.1		1.2	73.4	645
Shelled bean.....	9.4	0.6	29.1	2.0	58.9	740
Navy bean, dry green.....	22.5	1.8	59.6	3.5	12.6	1600
String bean.....	2.3	0.3	7.4	0.8	89.2	195
Corn, green.....	3.1	1.1	19.7	0.7	75.4	500
Apple.....	0.4	0.5	14.0	0.3	84.6	290
Dried fig.....	4.3	0.3	74.2	2.4	18.8	1475
Strawberry.....	1.0	0.6	7.4	0.6	90.4	180
Banana.....	1.3	0.6	22.0	0.8	75.3	460
Corn.....	10.0	4.3	73.4	1.5	10.8	1800
Wheat.....	12.2	1.7	73.7	1.8	10.6	1750
Buckwheat.....	10.0	2.2	73.2	2.0	12.6	1600
Oat.....	11.8	5.0	69.2	30.0	11.0	1720
Rice.....	8.0	2.0	77.0	1.0	12.0	1720
Rye.....	12.2	1.5	73.9	1.9	10.5	1750
White bread.....	9.2	1.3	53.1	1.1	35.3	1215
Whole wheat bread, oat.....	9.7	0.9	49.7	1.3	38.4	1140
Breakfast food (cooked).....	2.8	0.5	11.5	0.7	84.5	285
Toasted bread.....	11.5	1.6	61.2	1.7	24.0	1420
Corn bread.....	7.9	4.7	46.3	2.2	38.9	1205
Macaroni, cooked.....	3.0	1.5	15.8	1.3	78.4	415
Sugar, granulated.....			100.0			1860
Molasses.....	2.4		69.3	3.2	25.1	1290
Stick candy.....			96.5	0.5	3.0	1785
Maple Sugar.....			82.8	0.9	16.3	1540
Honey.....	0.4		81.2	0.2	18.2	1520
Parsnip.....	1.6	0.5	13.5	1.4	83.0	230
Onion.....	1.6	0.3	9.9	0.6	87.6	225
Potato.....	2.2	0.1	18.4	1.0	78.3	385
Celery.....	1.1		3.4	1.0	94.5	85
Grapes.....	1.3	1.6	19.2	0.5	77.4	450
Raisins.....	2.6	3.3	76.1	3.4	14.6	1605
Canned fruit.....	1.1	0.1	21.1	0.5	77.2	415
Fruit jelly.....			78.3	0.7	21.0	1455
Grape juice.....	0.2		7.4	0.2	92.2	150
Walnut.....	16.6	63.4	16.1	1.4	2.5	3285
Chestnut.....	10.7	7.0	74.2	2.2	5.9	1875
Peanut.....	25.8	38.6	22.4	2.0	9.2	2500
Peanut butter.....	29.3	46.5	17.1	5.0	2.1	2825
Cocoonut (desiccated).....	6.3	57.4	31.5	1.3	3.5	3125

RELATIVE PROTEIN VALUE OF FOODS.

Kind of Food.	Cost per pound—Cents.	Protein for 1 cent 1-1000 pound.	Kind of Food.	Cost per pound—Cents.	Protein for 1 cent 1-1000 pound.
Oat.....	1.75	67.4	Chestnut (shelled).....	15	7.1
Corn.....	1.5	66.7	White of egg.....	20	6.5
Wheat.....	2.5	48.8	Macaroni, cooked.....	5	6.0
Rye.....	3	40.7	Peanut.....	3	5.3
Buckwheat.....	2.5	40.0	Onion.....	3	5.3
Navy bean, dry.....	6	37.5	Bacon.....	22.5	4.2
Corn bread.....	4	19.8	Beef suet.....	12	3.9
Whole wheat bread.....	5	19.4	Molasses.....	6.3	3.8
Toasted bread.....	6	19.1	English walnut (shelled).....	50	3.3
White bread.....	5	18.4	Decimated coconut.....	19	3.3
Cottage cheese.....	12	17.4	Oysters.....	20	3.1
Peanuts (shelled).....	15	17.2	Oat breakfast food.....	10	2.8
Potato.....	1.3	16.9	Raisins.....	10	2.6
Smoked herring.....	25	14.5	Banana.....	5	2.6
Skim milk.....	2.5	13.6	Green string bean.....	10	2.3
Salt cod.....	16	13.4	Dried fig.....	22	2.0
Buttermilk.....	2.5	12.0	Corn, green.....	15	2.0
Cream cheese.....	22	11.8	Canned fruit.....	10	1.1
Peanut butter.....	25	11.7	Strawberry.....	10	1.0
Fresh shelled beans.....	8	11.7	Apple.....	5	0.8
Beefsteak.....	17	10.9	Celery.....	15	0.7
Pork chops.....	16	10.6	Grapes.....	20	0.6
Mackerel.....	18	10.2	Butter.....	37	0.3
Dried beef.....	30	10.0	Honey.....	22	0.2
Cod fish (lean).....	16	9.9	Grape juice.....	25	0.1
Smoked ham.....	18	8.9	Granulated sugar.....	6	0.0
Lamb chop.....	20	8.8	Lard.....	17	0.0
Whole milk.....	4	8.2	Stick candy.....	15	0.0
Rice.....	10	8.0	Olive oil.....	52	0.0
Yolk of egg.....	20	8.0	Maple sugar.....	23	0.0
Whole egg.....	20	7.4	Fruit jelly.....	30	0.0

RELATIVE HEAT AND ENERGY VALUES OF FOODS.

Kind of Food.	Cost per pound—Cents.	Fuel value for 1 cent—Calories.	Kind of Food.	Cost per pound—Cents.	Fuel value for 1 cent—Calories.
Corn.....	1.5	1200	Whole milk.....	4	78
Oat.....	1.75	983	Lamb chops.....	20	77
Wheat.....	2.5	700	Parsnips.....	3	77
Buckwheat.....	2.5	640	Onion.....	3	75
Rye.....	3	533	Honey.....	22	69
Granulated sugar.....	6	310	Dried fig.....	22	67
Corn bread.....	4	301	Maple sugar.....	23	67
Potato.....	1.3	296	Beefsteak.....	17	67
Beef suet.....	12	292	Skim milk.....	2.5	66
Navy bean, dry.....	6	267	English walnut (shelled).....	50	66
White bread.....	5	243	Buttermilk.....	2.5	64
Lard.....	17	240	Apple.....	5	58
Toasted bread.....	6	237	Cream (18.5 per cent).....	15	58
Whole wheat bread.....	5	228	Smoked herring.....	25	54
Molasses.....	6.3	205	Fruit jelly.....	30	48
Rice.....	10	172	Cottage cheese.....	12	43
Peanuts (shelled).....	15	167	Canned fruit.....	10	41
Dehydrated cocoanut.....	19	164	Mackerel.....	18	36
Raisins.....	10	161	Whole egg.....	20	35
Bacon.....	22.5	135	Green corn.....	15	33
Chestnuts (shelled).....	15	125	Oat breakfast food.....	10	29
Stick candy.....	15	110	Dried beef.....	30	28
Peanut butter.....	25	113	Salt cod.....	16	27
Smoked ham.....	18	108	Grapes.....	20	23
Pork chops.....	16	99	Codfish (lean).....	16	20
Fresh shelled beans.....	8	93	Green string beans.....	10	19
Bananas.....	5	92	Strawberry.....	10	18
Butter.....	37	92	White of egg.....	20	13
Cream cheese.....	22	89	Oysters.....	20	12
Macaroni, cooked.....	5	81	Grape juice.....	25	6
Yolk of egg.....	20	80	Celery.....	15	6
Olive oil.....	52	79			

THE POTATO AS A FOOD.

One of the greatest authorities on food in the world is Dr. J. H. Kellogg, superintendent of the Battle Creek Sanitarium, Battle Creek, Mich. He has spent a lifetime in the study of the various articles of food, his investigations covering all possible sources of information, not only in America, but in Europe. The following articles on the "The Special Dietetic Virtues of the Potato," by this foremost authority, is one of the best ever written about the potato:

"Soon after the potato was introduced into Europe in the sixteenth century the ridiculous notion somehow got afloat that the use of the potato was the cause of leprosy, which at that time was quite prevalent in most European countries. The prejudice which was thus created against this most valuable of all garden vegetables has never been quite overcome. Various malicious libels against the good name of this most innocent and wholesome of foodstuffs are still afloat. Multitudes believe the potato to be difficult of digestion. Even physicians often prohibit its use on the supposition that it is likely to ferment in the stomach—a mistaken notion, as the writer will show. The belief is quite general that the potato especially promotes fat-making, and hence that its use must be avoided by persons who have a tendency to obesity. This is also an error. All foods tend to produce obesity when taken in excessive quantity; that is, more than the individual needs to maintain his nutrition on equilibrium. No foods produce excess of fat when limited in quantity to actual daily bodily needs.

"The potato is truly a most remarkable product. It contains within its aseptic covering a rich store of one of the most easily digestible of all forms of starch. The observations of Mosse, Van Noorden and others have shown most conclusively that the starch of the potato is more easily digested and appropriated by the body than the starches of wheat, corn and most other cereals. In laboratory tests made by the writer it was found that potato starch digested in less than one-sixth of the time of cereal starches. The experience of hundreds of physicians in the treatment of diabetes has shown that in many cases the starch of the potato is more easily assimilated or better utilized than other forms of starch.

"Potato gruel made from specially prepared potato meal or the pulp of baked potatoes has been found in Germany of very great service in the feeding of infants and invalids. Potato starch is far better for this purpose than cornstarch, arrowroot and similar substances, which are pure starch and cannot be properly considered as foods. The long continued use of these starches in the feeding of young infants often results more disastrously.

"The potato is not only an easily digestible foodstuff but possesses much higher nutritive value than is generally supposed. According to Gautier, about one-fourth of the weight of the potato is food substance, consisting chiefly (nine-elevenths) of starch. Of the remainder, three-fifths are protein, the tissue-building element, and two-fifths alkaline

salts in combination with citric and malic acids, the acids of the lemon and the apple.

"From a dietetic standpoint, the potato is perhaps slightly deficient in protein, though this statement would be disputed by some physiologists whose experiments appear to demonstrate that the amount of protein contained in the potato is quite sufficient for ordinary bodily needs.

"The potato is certainly deficient in fats, of which it contains almost none, because of the fact that it is not, like so many of our vegetable foods, a seed, but a curiously modified and enormously fleshy tuber. This deficiency in fat must always be remembered in the use of the potato, and the lack must be made up by the addition of cream, butter, or some other foodstuff rich in fat.

"What the potato lacks in fat and protein, however, it makes up in salts, which constitute nearly 5 per cent of its dry substance and are perhaps its most characteristic quality from a dietetic standpoint and one of its chief excellences. These salts consist chiefly of potash, and in the ordinary form in which they are supplied do a most important service in maintaining the alkaline condition of the blood, which is essential to good health and resistance to disease. Meats contain very great excess of acid-forming elements and tend to acidify the blood. Cereals have some tendency in the same direction. The lowering of the alkalinity of the blood by acid-forming foods, especially by the free use of meats, is unquestionably one of the chief causes of the rapid increase in chronic diseases, the mortality from which has doubled within thirty years, causing a loss annually of 350,000 more lives than would occur if the average citizen was as healthy as he was thirty years ago. This is probably also one of the chief causes of arteriosclerosis, or hardening of the arteries, gout, rheumatism, Bright's disease, apoplexy, and other degenerative maladies. The alkaline salts of vegetables are needed to balance the dietary. If the consumption of potatoes in this country could be quadrupled, the result would undoubtedly be the saving of many thousands of lives annually and an incalculable amount of suffering from disease.

"The great nutritive value of the potato, notwithstanding the fact that it is three-fourths water, may be best shown by comparing it with other known foods. A study of the nutritive value of various common foodstuffs shows that one pound of baked potato is equivalent in total nutritive value to the quantities of various foods shown in the following table:

Food equivalent in total food value to one pound of baked potato:

1 $\frac{5}{8}$ pounds of boiled potato.

5 $\frac{7}{8}$ ounces boiled beef.

1 pound of chicken.

1 $\frac{1}{2}$ pounds of codfish.

2 $\frac{1}{4}$ pints of oysters (solids).

4 pints of clams (in shell).

4 $\frac{1}{2}$ pints of beef juice.

10 pints bouillon or beef tea.

1 $\frac{1}{8}$ pints whole milk.

3 pints skimmed milk.

8 eggs.

9 ounces baked beans.
7 ounces bread.
 $1\frac{3}{4}$ pints oatmeal or cornmeal mush.
 $1\frac{1}{2}$ pints hominy (cooked).
1 pint boiled rice.
1 pound of bananas.
2 pounds parsnips (cooked).
1 pound green peas (cooked).
3 pounds beets (cooked).
4 pounds boiled cabbage.
4 pounds radishes.
5 pounds tomatoes.
5 pounds turnips (cooked).
 $6\frac{1}{2}$ pounds cucumbers.

"From the above table it will readily appear that the potato is one of the most nourishing of our common foods. Its value is still further emphasized by the fact that steamed or mashed potato digests in two or three hours, whereas roast beef requires four or five hours, or double the time (Gautier).

"As already noted, the potato is not rich in protein, although the amount of this element in the baked potato reaches the Chittenden standard, 10 per cent of the total nutritive values a proportion which in feeding many thousands of persons, those in health, as well as invalids, at the Battle Creek Sanitarium, we have found amply sufficient. The writer adopted personally a very low protein standard in early life and has adhered to it for more than forty-six years, and with great benefit. Nevertheless, if a larger amount of protein is required, it may easily be obtained by the addition of milk or eggs, substances which while increasing the proportion of protein also add the fat necessary to render the potato a complete food. Half a pint of rich milk will thus balance a pound of baked potato; or an equally good balance may be made by adding to a pound of potato two ounces of white bread (two ordinary slices) and an ounce of butter.

"Bunge, the world's greatest authority on the chemistry of foods, has called special attention to the importance of the alkaline salts that are found in vegetables, and in a much larger proportion in the potato than in any other vegetable used as food, the potato containing nearly forty times as much of this useful element as some cereal foods. No farmer would think of feeding his horses or cattle on grain alone. Cereals of all sorts contain a considerable excess of acid-forming elements. Grass and herbage of all sorts, as well as fresh vegetables, contain an abundance of alkaline salts, and hence are a necessary part of the diet of animals. Human beings, as Bunge, has clearly shown, require such vegetables for the same reason, and the potato is the most valuable of all known foods as a source of these essential elements. This is perhaps the reason why the potato is an almost invariable accompaniment of meat dishes. Meat contains an enormous excess of acid-forming substances, which are to some extent neutralized and antidoted by the basic salts of the potato.

"Graham bread with butter, or beans with butter, however, are much better combinations with potato than meat, for the reason that both

meat and potato are lacking in lime. The body requires about thirteen grains of lime a day. Meat contains but half a grain of lime to the pound. The potato contains only a grain and a half to the pound. Wheat flakes and other whole wheat preparations contain four grains of lime to the pound, and peas and beans contain eight grains of lime to the pound. Cow's milk contains fourteen grains of lime to the pint. The American people are losing their teeth, and bone diseases are increasing, as a result of this deficiency of lime. Professor Sherman of Columbia University declares that half the people of the United States are suffering from lime starvation. This is in part because of the meat diet and free use of cane sugar. Less meat, a larger proportion of potatoes, combined with wheat preparations and other cereals, beans, peas, and cow's milk would help to check this degenerative tendency.

THE POTATO AS A FOOD REMEDY.

"The potato is of immense service as a food remedy in the treatment of a large number of diseases. It is especially valuable in cases of chronic intestinal auto-intoxication or 'biliousness.' It affords bulk for the intestines to act upon, and so antagonizes constipation. The large proportion of starch and other carbohydrates encourages the growth of friendly bacteria in the intestines, thus preventing putrefaction. For the same reason the free use of potatoes combats rheumatism and gout, which are results of chronic intestinal poisoning.

"The potato is valuable in the treatment of anemia, because it combats the growth in the intestine of the germs which produce blood-destroying poisons. The death rate from diabetes, according to the mortality statistics of the United States census bureau, has increased nearly 50 per cent in ten years. The freer use of potatoes as an article of diet and the lessened consumption of meat would perhaps do more than any other thing to suppress the alarming increase of this fatal malady.

"Arteriosclerosis, or hardening of the arteries, a disease which causes apoplexy and is associated with Bright's disease and various forms of heart disease besides being the cause of premature old age, is often directly the result of chronic poisoning, the course of which is the putrefaction of undigested remnants of animal substances which have been eaten, which undergo decay with the absorption of poisonous products. The free use of the potato as an article of diet in place of the excessive consumption of meat and fish, a practice widely prevalent, would unquestionably check the alarming rapid development of this disease, which, according to the United States mortality reports has increased four hundred per cent in the last ten years.

"The potato, buttermilk, and oatmeal diet of the Irish has developed one of the most sturdy and enduring races of men to be found anywhere. The proportion of centenarians in Ireland is more than ten times as great as in England. There can be no doubt that the free use of potatoes by the Irish is in large measure responsible for the remarkable longevity of this nation.

"The idea that the potato is difficult of digestion and thus gives rise to fermentation in the stomach is entirely erroneous. The fault is not with the potato but with the manner of eating. When acted upon by

the saliva, the starch of the potato is converted into maltoes and dextrin, which Palow of St. Petersburg has shown to be powerful stimulants of the glands of the stomach. Properly cooked and well chewed, the potato is thus not only a good food but an aid to the digestion of other foods. In persons whose stomachs have a tendency to produce excessive acids the stimulating effect of the potato may be great as to produce the symptoms characteristic of hyperacidity, heartburn, tenderness of the stomach, regurgitation of gas and acid liquid, and other well known symptoms. This difficulty is not at all due to fermentation but an excessive amount of acid and the resulting spasmodic contraction of the pylorus, so the stomach is stimulated to violent contraction. The gas contained in the stomach cannot be forced downward in the proper direction, and so escapes upward. The difficulty is not likely to occur, however, except when chewing is neglected. The gastric juice has little action upon the potato. Coarse particles of potato may remain in the stomach many hours, causing excessive acid fermentation, irritation and eructations. In eating potato every morsel must be chewed until reduced to a smooth paste in which no coarse particles can be detected by the tongue.

"The remedy is simple. Palow has shown that fats lessen the activity of the stomach in the secretion of gastric juice. Hence, it is only necessary to increase the amount of fat eaten with the potato. In extreme cases the potato should be eaten in the form of a puree with the addition of butter or rich cream. This difficulty is especially noticeable in persons who have habitually eaten large quantities of meat when they undertake to change their eating habits, taking less meat and more cereals and potatoes. With a change in eating habit, the unpleasant symptoms usually disappear in a short time.

"Some persons find it necessary to avoid the use of tomatoes and acid fruits and potatoes. The apparent disagreement of the potato with acid fruits is chiefly due to neglect to thoroughly masticate the food. If the potato is eaten in the form of puree or well mashed, and if the fruit is also in the form of puree or if pains are taken to masticate it very thoroughly inconvenience from the combination will be rarely, if ever, experienced.

"The potato should always be cooked with the 'jacket' on. The mineral salts of the potato so valuable to health are just under the skin and if the potato is peeled before cooking the salts are thrown away."

A TALE OF GROUND HOG.

BY J. W. HELME.

This department is in possession of a very interesting book which has been so popular that it has reached a second edition. It is entitled "Secrets of Sausage Making" and is published by the B. Heller & Company of Chicago. This firm is a very large dealer in butcher's supplies and preservatives. The secrets of sausage making have long been desired by this department and the public generally and in this respect this book fills a long felt want.

On page 236 is an interesting chapter entitled "Bull Meat Preferable for Sausage." Here the butchers are advised by all means, if possible, to make sausage from bull meat. The reasons for this the book gives as follows:

"But the great advantage of using bull meat in preference to that of the steer and cow is on account of its greater absorption of water. The more water you work into the meat while it is being chopped, the more tender and juicy will be the sausage."

Of course the more water you get into sausage, the more weight, and in this way butchers are enabled to get 15c a pound for water. This fact, however, the book does not state in exact words but most butchers are able to read between the lines. It is a well known fact that in recent years butchers have been using some kind of cereal flour to put in sausage. Ostensibly they claim that the flour is used for the purpose of a binder and to make the sausage more palatable but the real reason is that the cereal placed therein will absorb a greater quantity of water which can be sold at the regular price of meat.

This firm manufactures for sale a cereal for placing in sausage to which they have given the aesthetic name of "Bull Meat Flour." On page 205 the firm extols the merits of their brand of Bull Meat Flour and its superiority over common Potato Flour. The book reads as follows:

"If you will take a gallon of water and put into this water one pound of Potato Flour and let it stand for one hour all of the Potato Flour will have settled to the bottom and you can pour off the gallon of water and then weigh the pound of Potato Flour and you will be surprised that it will weigh less than two pounds; it will take up less than one pound of water. Also make a test by putting one pound of Bull-Meat-Brand Flour in a gallon of water and you will find that the pound of Bull-Meat-Brand Flour will almost have absorbed the entire gallon of water."

We think the Heller Company is exaggerating somewhat when it claims that one pound of its particular brand of cereal will absorb one gallon, which is eight pounds, of water but even if it absorbed five pounds of water to every pound of flour, the consumer would be compelled to pay a high price for water. The book gives various recipes for making different kinds of sausage and in all the recipes the book advises the use of five pounds of their celebrated Bull Meat Flour for every one hundred pounds of sausage. If their flour will absorb the water that they claim it will, the result would be that sausage, made in this way, would contain 40% water for which the consumer would pay 15c a pound.

A recent law in this state limits the amount of cereal to be placed in sausage to 2% and butchers are warned that if they follow the Heller recipes for making sausage and place five pounds of cereal in their sausage, they are violating the laws of this state and will be subject to prosecution. Already several butchers in Detroit have paid fines of \$100 each for making sausage according to Heller and more prosecutions are pending. Some of the best butchers of the state are

now making sausage without cereal and their action is to be commended. If cereal is placed in sausage no matter how small the amount, it must be labeled "Sausage with Cereal" and the consumers of sausage in the state should understand that when they buy sausage with cereal, they are paying a big price for a surplus amount of water which is evaporated when the sausage is cooked. We shall have occasion to refer further to this interesting work containing the "Secrets of Sausage Making."

SOME FACTS ABOUT JELLIES.

BY J. W. HELME.

Away back in the last century when the writer was a boy, his favorite food was jelly cake. Any boy who was a boy in the last century can remember the jelly cake that mother used to make. There were generally eight or nine layers of cake not very thin and the same number of layers of jelly which were nearly as thick as the cake and this jelly was real jelly made in the household from fruit like the currant, the grape, the apple or the crab apple and it had no color in it except that given to it by nature in her great laboratory. Naturally jelly cake made from this kind of jelly became a favorite human food and from the home it naturally gravitated to the bakery. Here of course, commercial processes began to cheapen its cost and in order to cheapen its cost material was likewise cheapened. It was found that the use of pure fruit jelly in commercial baked goods was expensive and in order to cut down the expense and thus increase the profit, substitutes were looked for and as is generally the case the substitutes were found. There were placed on the market imitation jellies which had never seen any fruit. These jellies were made largely from glucose and dextrine. Glucose and dextrine are made solely from corn starch treated with muriatic acid, and never from any fruit. There was one defect, however, in the imitation jellies. In their natural condition as they came from the manufacturer, they were colorless and so they were not attractive, but the thrifty business man soon obviated this. Coal tar dyes furnish a large number of colors and soon we had the glucose jelly colored with a red coal tar dye, and a liberal mixture of Timothy seed added, put on the market as strawberry jelly. Other fruit colors were likewise imitated and the cheapness of these jellies drove the legitimate fruit jelly out of the market so far as the baked goods were concerned.

Michigan is the second largest fruit growing state in the Union and the legislature several years ago, in order to protect its fruit growers, enacted stringent laws which prohibit the coloring of any glucose jelly in imitation of fruit jelly. The law has not been as vigorously enforced in the past as it should have been but it is the intention of this department to enforce the law in the future against the coloring of any jelly that is not a fruit jelly. When the consumer goes into a bake shop and sees a jelly roll of nice red jelly, he naturally concludes it is a fruit jelly when there is not a bit of fruit used in its manufacture. In this way the coloring of glucose jellies becomes a fraud upon the consumer.

There is nothing unwholesome in glucose jellies but when colored to imitate fruit jellies, they deceive the consumer and cause him to pay a higher price for them than he otherwise would and this is the reason that the coloring of imitation jellies is wrong morally as well as legally. Bakers who use colored imitation jellies are just as subject to the penalties of the law as the manufacturer who colors them.

Last year thousands of bushels of apples rotted on the ground for want of market. In many sections the cider mills refused to buy cider apples because there was no profitable market for the cider and yet these mills are most of them equipped for making a superior quality of apple jelly from every bit of cider that can be manufactured. The reason they do not make it is because glucose jellies colored to imitate fruit jellies can be sold cheaper than apple jellies and for this reason are largely used by the baking trade. All inferior apples in Michigan can readily find market at the cider mill were it not for the unfair competition of colored glucose jellies and malt vinegar. In order that the Michigan fruit grower may have a legitimate market for his inferior apples and the Michigan consumer can receive pure fruit jellies and pure cider vinegar, this department will make a special effort in the future to enforce the laws governing the sale of jellies and vinegars that are not made from actual fruit.

THE NEW BEET SUGAR LAW.

BY J. W. HELME.

The last legislature passed a law placing the inspection and testing of sugar beets with the Dairy & Food Department. Under the provisions of this law the chemist of the Agricultural College, the chemist of the Dairy & Food Department and the chemist of the Agricultural Experiment Station were made a Commission to formulate rules and regulations for the uniform weighing, taring and testing of all sugar beets in Michigan. This commission has already met and formulated rules and regulations providing for the weighing, taring and testing of all sugar beets used in Michigan Sugar Factories during the coming season. Copies of these rules and regulations have been printed and are required by law to be posted in all beet sugar factories and at all weigh stations.

The Dairy & Food Commissioner is authorized by this law to appoint two inspectors whose duty during the coming season will be to visit various sugar factories and personally see that these regulations are carried out. Both of these inspectors are to be competent beet sugar chemists who have had several years experience in sugar beet factories.

Under the provisions of this law any farmer who is furnishing sugar beets to any factory, if he is dissatisfied with the weighing and taring of his beets or with the analysis of the sugar content, can file a complaint with the Dairy & Food Commissioner at Lansing and this complaint will be promptly investigated by one of the Inspectors and the justice thereof determined.

The Dairy & Food Department also expected to test all scales used in

weighing sugar beets throughout the State but owing to the non-arrival of weights and scales ordered last June, it will be impossible for the department to test all scales before the opening of the season. It is intended, however, to have the Inspector of weights and measures test as many scales as possible, and if any sugar beet grower is dissatisfied with weights received, he should make a complaint to this department and the scales of that particular weigh station will be promptly investigated and corrected if found necessary.

It is hoped by this law to do away with much dissatisfaction that has existed in former years relative to the analysis of the sugar beet content, as this year all factories in Michigan will pay for beets according to the content of sugar.

The law further provides that the salaries and expenses of sugar beet inspectors in enforcing this law shall be paid by the companies, and to provide a fund for this purpose every sugar beet factory at the close of the campaign is required to make a sworn statement of the number of tons of sugar beets sliced and they are also required to pay into the State Treasury an annual tax of $\frac{1}{4}$ c per ton on all beets manufactured into sugar which fund is used to defray the expenses of this inspection. All weighmen, tarenmen and sugar beet chemists are required to take an oath that they will weigh and test sugar beets according to the rules and regulations prescribed by the State Commission. Copies of these oaths and regulations prescribed will be furnished by the Dairy & Food Department upon application. It is the intention of the Department to enforce this law vigorously in order that both the factories and the producers shall have a square deal and that all complaints on either side shall be satisfactorily adjusted.

SANDWICHES THAT ARE NOT EDIBLE.

BY J. W. HELME.

With the approach of winter the dairy cows will soon be stabled and in a short time our Dairy Inspectors will be entering barns all over Michigan and there they will find a peculiar kind of sandwich. Sandwiches, as the reader knows, generally consist of a piece of meat with two outside covers. The sandwiches that our Dairy Inspectors will find in the Dairy barns might be called "fertilizer sandwiches." They consist of the cow in the middle and a great big slab of fertilizer on each side of her. Now the head of this department believes in conservation and the place for fertilizer is upon the fields of the farm and not upon the sides of the cow. Not only does the cow endure great discomfort by being placed in a fertilizer sandwich but when the milker sits down to milk, of necessity more or less of this covering will fall into the milkpail and eventually a part of it will be transferred to the city man's stomach. Now we hold no brief for the city man's stomach although the urban population in Michigan now comprises about 50% of the population. In other words during the coming winter over one million dwellers in towns and villages will all be carrying around in their stomachs more or less fertilizer which is obtained from the fertilizer sandwich in the

dairy stables. This fertilizer is a plant food and not an animal food and when we think of the vast amount that will be carried around in the city man's stomach eventually to be wasted, we want to warn the dairymen of the state that here is a tremendous waste. The place for fertilizer is not in the city man's stomach where it is liable to impair his digestion more or less, but its true place is on the farms of the state to grow additional crops of corn and clover. This enormous waste can be avoided if the dairyman will only place in his barn the proper kind of stall whereby the cow will keep clean and a vast amount of fertilizer saved to enrich the land of the state.

There are several different kinds of sanitary stalls on the market but unfortunately they are quite expensive to install. To the dairymen who cannot afford from six to ten dollars per stall for each cow in his herd, this department offers the plan of a stall that is equally as effective in keeping cows clean and can be made by any farmer. This stall, which has been called the "model stall," has been in use by dairymen throughout the United States for ten or fifteen years. Some of the most prominent dairymen in the country including such men as Ex-Governor Hoard, the Editor of Hoard's Dairyman, Ex-Governor Warner, Ex-Food Commissioner Lillie and numerous others have had these stalls in practical use for a great many years, the writer of this bulletin has had them in his barn for fifteen years and is still satisfied with them. With the proper use of these stalls it is absolutely impossible for any cow to convert herself into a fertilizer sandwich. The stall is not patented. Any farmer can build the same and it is cheaper to build and install than any other form of cow stalls. Moreover it is very humane because it gives the cow absolute freedom and no stanchions are used. A full description of how to build this stall with photographs of the same and complete working dimensions will be mailed to any person who will send their name and address to this department. To all who cannot afford to put in a high priced sanitary iron pipe stanchion, we know from personal experience that this stall will be equally effective in keeping cows clean and a large amount of fertilizer saved to the farm that installs them.

Under the laws of Michigan, milk and cream produced from cows covered with filth are not salable and it is to be hoped that every dairyman in the state who has not already installed a sanitary cow stall in his barn, will take advantage of this opportunity to see that his cows are kept clean and comfortable during the coming winter. Drop a postal card to the State Dairy & Food Department at Lansing requesting a description of this stall, and full working directions for making the same will be forwarded.

THE DEADLY PTOMAIN.

BY J. W. HELME.

With the advent of hot weather comes an enormous increase in the consumption of ice cream and with this consumption comes the usual reported cases of ptomaine poisoning. Ice cream is a healthful product

and one of our cheapest and most valuable foods and there is nothing dangerous in the consumption of ice cream provided proper conditions have been maintained in its manufacture. It must always be remembered that milk is an animal product and that in hot weather decomposition will set in in milk the same as in meat or any other animal product. In the decomposition of any animal product ptomaines are liable to be formed and if the product is then eaten, ptomaine poisoning results which often causes death and, in any event, very severe suffering.

There are two conditions under which ptomaine poisoning is liable to result in the manufacture of ice cream—one is caused by the refreezing of cream that has once been frozen and returned. It is quite a common thing in many rural districts for ice cream to be furnished church socials with the understanding that cream not used can be returned next day. If this cream is refrozen, ptomaines are very liable to develop. The practice should be strictly prohibited by law. Dirty milk cans and dirty ice cream cans likewise, may develop ptomaines from the decomposition of old cream left in the cans. At nearly every railroad station in Michigan can be seen ice cream cans that are being returned to the manufacturer after the cream has been used and, in nearly every case, the can is unwashed, and on opening the same the fearful stench of the decomposition of animal matter reaches the senses. A can in this condition when it reaches the factory is almost impossible to wash and sterilize and if any part of this old matter is left in the seams of the can, it is liable to inoculate new cream placed therein and ptomaines may generate and cause sickness and death. Every retail dealer of ice cream should thoroughly wash all empty cans before returning to the factory.

The last legislature passed a law providing for a penalty of \$100 for any person who reships ice cream or milk cans back to the factory without thoroughly cleansing them. The Dairy & Food Department proposes to vigorously enforce the same and wherever ice cream cans are found unwashed at any station, prosecutions for the violation of this law will be instituted.

PTOMAINES AND SULPHITES.

A few weeks ago at Ann Arbor a student ate a Hamburger Sandwich and died within twelve hours from Ptomaine poisoning. As we explained in a recent bulletin the Ptomaine poison is formed in decaying animal products. It is a chemical poison that no amount of heat will destroy. The reason it occurs more frequently in Hamburger and Sausage is because of the tendency of some butchers to retain the meat on the block until it is no longer salable in its original form—then it goes to the grinder for Hamburger or Sausage.

Right here is where many butchers use a preservative known as "Sulphites." But for the addition of sulphites, this stale meat would not be saleable as Hamburger or Sausage. Sulphites preserve and embalm the meat from further decay by making it insoluble and imputrescible. The process of digestion is one of decomposition. Sulphites are not only injurious to health in themselves, but by preventing decomposition in the stomach injure the food product and make it indigestible.

The great danger in the use of sulphites is that it may preserve Hamburger or Sausage in an apparently salable condition after decomposition has set in and Ptomaine may have formed in the meat. It is a wise precaution for a consumer who likes Hamburger Steak to select the meat and have it ground in his presence. When you see Hamburger of a very bright, glairy and unnatural red, the probabilities are that it has been embalmed.

The use of preservatives containing Sulphites is forbidden by the laws of this state. This Department has in the past issued many warnings against the use of this preservative. In the future all cases of Sulphite preserved meat will be vigorously prosecuted.

WEIGHTS AND MEASURES.

BY J. W. HELME.

The last legislature passed a new Weights & Measure Law placing the operation of the same in charge of the State Dairy & Food Department. This law took effect on August 15th. Under the law the State Dairy & Food Commissioner became Superintendent of Weights & Measures for the State and his deputies became inspectors of weights and measures. He is also given authority by the law to prescribe rules and regulations for weights and measures in the state. One of the greatest abuses in the state is the so-called bottomless peck measure. This measure is about the size of a stove pipe in diameter and the ostensible object of this small diameter is so that it can be slipped into a paper bag and the commodities measured will be in the bag on the withdrawal of the measure. This measure contains the same number of cubic inches that the ordinary flat peck measure contains but owing to its peculiar shape, in the measuring of commodities like apples or potatoes, it is impossible to get a peck of those commodities in this measure. A bushel of potatoes under the Michigan law weighs 60 lbs. and a peck of potatoes should therefore weigh 15 lbs. but in the bottomless peck measure only 12 lbs. of average size potatoes can be placed therein. The use of this measure gives the dealer five pecks to every bushel. The use of this measure has been condemned by other states and on and after August 15th its use in Michigan became illegal under the regulations that were issued by the State Superintendent of Weights & Measures. Dealers and consumers will take notice accordingly.

It has been customary throughout the state for grocers to sell dry beans and like commodities in a tin quart measure. This tin quart measure holds a liquid quart which is about 10 cubic inches less than a dry quart measure holds. As a result a bushel of beans which contains 32 quarts when measured out to the consumer in a tin quart measure will measure 37 quarts and the consumer is therefore deprived of 5 quarts of beans on every bushel he buys. All commodities not liquid must be sold by dry measure a quart of which contains $67\frac{1}{2}$ Cu. In. Under regulations issued August 15th by the Superintendent of Weights & Measures, the use of liquid measures in selling dry commodities is prohibited and a failure to observe this law will invite prosecution. In-

spectors of this department are notified to warn all dealers against the use of bottomless peck and half peck measures and also against the use of liquid quart measures when selling any commodity not liquid.

BUCKWHEAT CAKES AND MAPLE SYRUP.

BY J. W. HELME.

When our forefathers settled Michigan, there were two things that were both convenient and cheap. The fertile virgin soil needed some crop that was a voracious feeder to subdue it and nothing quite filled the bill in this respect like buckwheat.

Abundant forests of Hard Maple were on every hand to tap and an abundance of cheap fuel made maple syrup obtained from maple sap the cheapest sugar to apply to cakes made from the buckwheat flour.

The present generation thus inherited a taste for those delicious buckwheat cakes and maple syrup from our ancestors.

But times have changed. The maple forests have been largely cut down for lumber, fuel is scarce and high-priced and more profitable crops have superseded buckwheat.

As a result pure Buckwheat Flour and maple syrup have become scarce and high. Numerous imitations have sprung up and if the consumer would revel in the old time luxury of buckwheat cakes and maple syrup, he must be on his guard.

Fortunately Michigan Food Laws still make possible the obtainance of this delicacy of our farefathers.

Buckwheat flour is generally adulterated with wheat flour, but if so adulterated the sack must be labeled "Buckwheat Flour Compound." If so labeled the sack may contain only 10% buckwheat. Look sharp for the sack that has printed on it the words "Buckwheat Flour" in large Blue or Red letters and the word "compound" is printed below in small letters with an inconspicuous color. If a sack reads "Pure Buckwheat Flour" without the word "compound," it is probably pure. You can mix in common flour to suit yourself much cheaper than you can buy the compound ready mixed.

The law requires every container of syrup to be labeled with the percentage of cane and maple therein. If it is labled "Maple Syrup" without these percentages, it is probably pure maple. Many imitations are on the market; they consist generally of pure cane syrup flavored and colored to imitate maple syrup. If you want this cheap syrup, you can make it yourself cheaper than you can buy it. The following letter recently received at this office will tell you how. The spelling is original with the writer.

Dear Sir:

As I am about to make a formley to take place of maple syrup, and make it for sale I have got a formley that you cannot tell

from the pur maple Now then what I want to know is this what
have I got to do in order to keep gotten any truly Or Infringen on
the law

Formley

7 lbs of granulated shugar

2 Quarts of boild watter

1 Oz of Henderson, Extract of maple

yours Truly,

It is not possible to obtain any "extract" or "Flavor" from maple sugar or syrup. All so called "maple extracts" are made from various drugs or by boiling up corn cobs and hickory bark. If you want Pure Buckwheat Cakes and Maple Syrup, watch the labels on the sack and bottles.

THE OLD HEN AND COLD STORAGE.

BY J. W. HELME.

The high price of Hen fruit has aroused a Nation's attention. The Housewives' Leagues are boycotting the old Hen's famous product to cut down the price. To understand the situation one must study the habits of the old Hen.

In February the hens of the country begin their annual output of eggs for Gin Fizzes and other uses. By April the hen has her egg factory working on full time and eggs are plenty and cheap. At this time the surplus cheap eggs are placed in cold storage. As summer advances the old hen's egg factory begins to work on short time until finally about October 1st, the factory closes down for the winter months.

The old hen has a reason for this. Like every female the old hen insists on having a new dress once a year. Unlike mankind, the old Rooster has not been educated to furnish the old hen a new dress so she has to do it herself. From Oct. 1st to Jan. 1st. the old hen uses all the angleworms, bugs and vegetables from the neighbor's garden, which went into eggs in the springtime, to make her a new dress for the Easter Holidays. As a result the price of eggs goes out of sight.

Enter. The villain of the play, the cold storage man.

Now cold storage has its uses and its abuses. As an agent in transferring our surplus of food products from times of plenty to times of scarcity, the cold storage man is a benefactor to the human race. But when the time of scarcity arrives and he refuses to put his products on the market at a reasonable profit, but holds them off and by reason of his monopoly exacts exorbitant prices from the consumer, cold storage becomes an abuse.

Laws should be passed limiting the time that any product should be in cold storage. Pennsylvania has such a law. Under its provisions, cold storage men are compelled to market April stored eggs in December at the latest, unless the State Dairy & Food Commissioner decides otherwise. Cold storage men in that state cannot form a mon-

opoly and mulct the consumer as the Dairy & Food Commissioner can force their product upon the market.

The writer endeavored to have the Michigan legislature pass a similar law at its last session. It was defeated in the House by the votes of the following members: Representative Bierd, Burke, Burns, Catlin, Chamberlain, Clark, Crapser, Croll, Dunn, Edwards, Farmer, Flowers, Follett, Foote, Griggs, Henry, Hicks, Hinkley, Holcomb, Jakway, Jensen, Jerome, Koehler, McMillan, McNitt, Middleton, Moore, Morgan, Murphy, Nank, Neller, Odell, Peckham, Richardson, Schaeffer, Skeels, Stevens, Warner, Wilcox and Wood. Had this law been passed any cold storage egg monopoly could have been smashed by this department.

It is to be hoped that public sentiment may be so aroused so that the next session of the legislature will see a law enacted to prevent abuses in the cold storing of food products.

PROCESS BUTTER.

BY J. W. HELME.

We notice in newspaper advertisements in various state papers that some grocers are advertising "Sweet Process Butter." We find on inquiry also that process butter is being sold for dairy butter. This is a rank fraud. Process butter, so-called, is merely and simply renovated butter.

During the summer time the local grocer buys much bad butter that it would not be possible to sell. When he gets a chunk of this, he heaves it into a barrel generally standing at the back door, and from time to time continues to throw in chunks of uneatable butter until he has a barrel full. This barrellful of rancid butter, oftentimes mixed with dirt and insects, is then sent to the renovated factory where it is melted, the insects strained out and the oil is churned with milk and thus made into what is called "Renovated Butter." Its name truly describes it.

A few years ago, however, the renovated butter men were able to get a law passed by the legislature so that they could call their product "Process Butter." Whenever the consumer in this state gets a package of butter which has stamped on it "Process Butter," he will know that it is renovated butter which has been subjected to the process above described. Whenever process butter is so advertised or displayed, as it is required to be by law, under the name "Process Butter," the consumer should not be deceived into believing that he is getting butter made by some new process. He is simply getting renovated butter which is absolutely the poorest and most unwholesome butter that there is on the market. Do not be deceived by the process butter fraud.

STORE YOUR OWN EGGS.

BY J. W. HELME.

Fresh eggs are now selling in local markets from 15 to 18 cents a dozen. The consumer is rejoicing, the farmer is disgusted with it and the cold storage man is busily engaged in filling his warehouse with April eggs which are called the best on the market for storage purposes. Next winter the cold storage man will be selling eggs from 35 to 40 cents. The consumer will be growling at the storage man and swearing off on the use of eggs. The farmer when he sees his 15 cent eggs passed at 35 to 40 cents, will think that he is being wronged and yet a very simple remedy lies in the hands of both producer and consumer. Each class if he wishes to absorb to himself the profits now made by storage warehouses, can do so very simply and easily by storing his own eggs.

A great many methods have been tried by food authorities to obtain some simple process of preserving eggs and the one that is now universally endorsed by the best authorities for the preservation of eggs, is by placing them in a solution of water glass or Silicate of Soda. The Maine Experiment Station found that eggs preserved in this way at the end of eleven months were not distinguishable from fresh eggs either in taste or nutritive value. Physical and chemical examination of such eggs showed no apparent depreciation in taste, quality or nutritive value. The process is very simple and any private individual can store eggs under this system.

Water glass, known to the chemists as Silicate of Soda, is a thick, gelatinous-appearing liquid. To preserve eggs, it is diluted with ten parts of water. The water should first be boiled and then cooled. Into this for every five quarts of water, one pint of water glass should be added and thoroughly mixed. This solution should be placed in some pail or can that can be sealed after the process of preservation is over. A half gallon glass fruit jar will hold 14 to 15 eggs. The solution should cover the eggs. If larger receptacles are wanted, small lard pails or large lard cans which have a tight cover can be used. These pails or cans should be coated inside with a warm solution of paraffin and after the eggs are placed in them and the solution covers them, the covers should be placed on tight and the edges sealed with paraffin. This prevents the evaporation of the solution which might expose the eggs to the air. After the receptacles are filled, the eggs should be stored in a cool place.

Water glass sells at wholesale for 40 cents a gallon and at retail for 10 cents a pound or about 25 cents a quart. The proportion used should be ten parts of water to one part of water glass. One gallon of this solution will cover six dozen eggs. By this manner eggs can be preserved at the cost of about one cent per dozen. The Experiment Stations find that eggs preserved in this way are superior to cold storage eggs and we recommend a trial of this method by producers and consumers as being one that will give them a profit of 50% upon the money invested.

April eggs are the best for storage although May eggs are just as good if the weather remains cool. The eggs should be as fresh as possible and clean but they should not be washed unless it is necessary. If consumers desire a No. 1 quality of eggs next winter at a reasonable price, they will do well to store eggs in water glass this month.

THE NASTY FLY.

BY J. W. HELME.

Consider the House Fly and his mate. They toil not, neither do they spin, but when it comes to bringing forth posterity, they have got Teddy Roosevelt's hobby beat a mile. About this time Mr. and Mrs. H. Fly leave their winter quarters and hie themselves to the nearest manure pile where Mrs. H. Fly makes her nest and lays 120 eggs at one sitting. As a layer Mrs. Fly has got the White Leghorn beat to a frazzle. In twelve hours these eggs hatch into maggots and unless picked up by the old hen and converted into eggs, they crawl down in the manure and eat this luscious substance for a week. Then after laying dormant for another week, they come out full-fledged flies dressed out in an Easter suit minus the hat and split skirt and proceed to give the race suicide theory another blow in the Solar Plexus.

Every fly killed in May means 1,000,000 less flies in September. Now is the time to swat the fly and swat him hard.

The fly is born in a manure pile. He lunches on it when young, and like most youngsters he fails to rise above his environments. There is no place too filthy to repel a fly. The fly has six legs with 162 hairs on each leg and a small sponge on the bottom of each foot.

In the garbage can, or open privy vault, or on a decayed cat or rat, he wades around soaking up his feet and covering his hairy legs with filth. Then he flies into the dining room and proceeds to scrape off his legs on the bread and wash his feet in the milk. If you don't like this, get a swatter and try to be a Ty Cobb in the Pure Food League. The nearer your swatting average comes to 1000 in May, the less exercise you will have in July swatting flies.

"FLIES ARE DANGEROUS."

Altho filth is bad and not very wholesome, it is not the worst thing flies carry around with them. It has been scientifically demonstrated that one fly can carry over 1,250,000 germs on his legs and body. Mr. Fly is especially equipped for this purpose. His legs, head and body are covered with fine hairs, then add to this the slime and sticky filth that he gathers on him while crawling around open sewers, drains, manure heaps, outhouses, etc., and you have the finest kind of a germ carrier. He can even take them into his body and they will pass thru without any deleterious effects on himself or the germ. He can carry germs of such diseases as typhoid fever, tuberculosis, infantile paralysis, cholera infantum, etc., either inside or outside of him with the greatest of ease. Dr. L. O. Howard has nicknamed him the "Typhoid

Fly" because so many cases of typhoid fever have been caused by his carrying germs of typhoid fever from one sick person to another. These germs are so small you cannot see them without a microscope. It would take 25,000 of them if laid end to end to measure an inch, but the fly that is the guest at your table may be carrying a million of them.

Flies kill more people than wild beasts and poisonous snakes do. Many of these beasts and snakes never get a chance to kill any human being but any one of the millions of flies found in most of our towns and cities has a chance of killing a whole family if he comes into a house carrying typhoid germs.

The chances of Mr. Fly carrying any germs into your house are lessened about 90,000,000 times if you put the quietus on him now.

"PREVENT FLIES FROM BREEDING."

The popular slogan is "Safety First." Why not apply this to the fly. If we can "prevent the fly" this will be accomplished. Like many other things of this nature, it can be done if everybody will do his or her little share. Following are the steps necessary to take to do it:

Screen stables if possible.

Remove the manure at least twice a week.

Keep the manure, while it is in the stable, in a closed bin or pit.

If flies begin to breed in stored manure they may be killed by thoroughly spraying with a solution of copperas (one pound to a gallon) applied at the rate of one gallon a day where one horse is kept. It costs about \$1 per hundred pounds; so that the cost of keeping flies from breeding in a one-horse stable is about one cent a day.

Be sure that you sprinkle the cracks and crevices of the bin or pit, as well as the cracks between the planking of the stall floors.

It is well to abolish old fashioned outhouses where possible. Where this cannot be done a liberal amount of ashes or lime should be used, applied in small amounts daily. Chloride of lime is better than slaked lime, but slaked lime is better than none at all.

Garbage cans should be thoroughly cleaned after emptying and the contents should be sprinkled with crude oil, lime or kerosene oil.

Remember every fly killed now means about 90,000,000 less next summer.

"FLY SCREENS, FLY TRAPS AND FLY POISON."

In spite of the fact that Mr. Fly has been the subject of thousands of bulletins, lectures, press notices, moving picture shows, etc., we will have thousands of them next summer. The next best thing after preventing the fly is to keep him out of the house, catch him or kill him. Following are some suggestions as to how this may be done:

Keep garbage cans closely covered unless you have a fly-trap attached to them. Such traps may be obtained at most hardware stores.

Screen the doors and windows of your home especially those of the kitchen, dining-room and pantry. If you cannot do this, at least screen the food itself, especially the milk in which germs multiply with more than ordinary rapidity.

Screen sick rooms, or at least the bed of the patient, and do not allow flies to have access to his excreta which should be treated with chloride of lime or some other disinfectant.

Screens are especially needed in towns which have no sewer system, or in which the sewers drain into a stream on the banks of which flies swarm attracted by the filth from the sewers.

If flies do get into the house in spite of screens, kill or trap them.

Sticky fly-paper and a variety of traps may be used, as well as poisoned fly-paper.

A cheap and reliable fly poison, which is not dangerous to human life, is bichromate of potash in solution. It may be bought at any drug store. Dissolve one dram in two ounces of water; add a little sugar and place about the house in shallow dishes.

To clear rooms of flies, use carbolic acid, heating a shovel and pouring on it 20 drops of the poison. The vapor will kill the flies.

Flies pass the winter hidden in cracks and holes in attics and cellars. Many of these may be killed in the spring by the two methods just described.

"JUST POP."

BY J. W. HELME.

This is a story about "Pop." Not Pop Corn, nor Pop goes the Weasel, nor popping the question, but the small boy's drink known by the name of Pop. From time immemorial the small boy has dissipated on pop. The loud "pop" as the bottle is opened gives a near imitation of July 4th and is as pleasing to the small boy's ear as the pop of the champagne bottle is to the mature man. In fact pop is the small boy's champagne. Pop, as originally discovered, was composed of water charged with carbonic acid gas, sweetened with sugar, flavored with various imitation flavors and colored red, white or brown to tempt the small boy's nickel. It is a first cousin to the red circus lemonade now nearly extinct. At its best it is not much; but now "Big Business" to make more money want to adulterate it.

This is small business for "Big Business."

A few years ago a chemist accidentally discovered in coal tar a drug that was five hundred times sweeter than sugar. This is pretty near as sweet as the Honeymoon. He named it saccharine. A big firm in St. Louis manufactures it. A pound of saccharine costing \$2.00 has the same sweetening power as five hundred pounds of sugar costing \$20.00. An agent of the St. Louis firm at Detroit the other day offered to defend in the courts any manufacturer using it. One firm tried it and was promptly arrested by agents of this department; for saccharine is a drug and has no food value while sugar has a high food value. Hence saccharine decreases the food value of pop and is therefore an adulteration.

The saccharine people claim that saccharine is sometimes prescribed by doctors for Diabetes; that 20% of all the people have this disease and they propose to cure this 20% by giving us all saccharine in our sweetened drinks. Whether it is harmful is a disputed question, several hundred "experts" having testified on both sides before the Federal pure food board according to how they were paid. But whether it is harmful or not, this Department proposes to vigorously prosecute all persons using saccharine in food products. It proposes to preserve to the

small boy his pop in its pristine purity. He doesn't want drugs in his pop, he wants sugar. He can get all the coal tar products he wants out of the coloring matter. The Commissioner was a small boy himself once and drank pop. Sometimes he does now—in dry counties.

Moreover, sugar is made in Michigan in the second congressional district and saccharine in Missouri. We are not from Missouri in this instance. Disloyalty to Michigan sugar by Michigan pop manufacturers will be vigorously prosecuted.

RAT POISON SCATTERED ON LANSING PORCHES.

One of the modern means of introducing some new brand of coffee, breakfast food or patent medicine is to have a sample of the article left on numerous porches throughout a city or town. As a means of calling attention to a new product it is very effective, but as a means of advertising a rat poison this method is a new one on us. However, that is what happened in Lansing a few days ago and probably has or will happen in many other Michigan cities in the very near future.

To have a poison haphazardly thrown around on the porches of city residences, to our way of thinking, is a most dangerous proceeding and it is doubly so when the contents of that package in any way resembles a confection or to the child's eye something good to eat.

One of the packages that was distributed in Lansing last Saturday was brought to this Department. It is called "Rat Annihilator." It consists of a slab of material about one and one-half inches wide and three inches long, colored red and wrapped in a piece of oiled paper. On first sight one would call it a piece of candy but on closer examination one finds that it has the odor of matches. An examination in the laboratory of this Department shows it to consist chiefly of starch paste impregnated with red phosphorous. This is contained in a carton which states on one end that the substance is a poison. On the face of the carton is a picture of a little girl going through the process of annihilating a rat. You are informed that it is "harmless to handle but not take internally" and that it is "safe, sure and sanitary."

The label is legal and anyone who could read the English language would know what he was getting and what it was to be used for, but when it is thrown around a city it is different. Little children who are quite often permitted to play on the front porch at this time of the year, are very liable to pick it up and open it. The slab of material resembles candy so much that the first impulse of a child would be to take a bite of it. In fact that was the occasion of the sample being brought to this Department. A package was left on the front porch of a Lansing residence, a two year old child was playing on the porch and found the rat poison. When the mother noticed the child, it had the slab out of the package and was about to bite into it.

As stated above it seems to us that this method of advertising a rat poison is a very dangerous way to go about it. We have no objection to the sale of rat poison nor its use, but we do not want to see it used as an annihilator of children instead of rats. Many cities have

ordinances prohibiting the promiscuous scattering of drugs or poisons in this manner. When such ordinances are in force they should take warning and prevent the reoccurrence of anything of this sort.

CO-OPERATION NECESSARY.

BY H. D. WENDT, IN CHARGE EDUCATIONAL DIVISION.

Co-operation is a fundamental law of nature. It is, however, one of the laws of nature from which humanity has departed as civilization has progressed, from the fact that better co-operation is maintained among the uncivilized people of the world than the civilized. In other words, civilization has tended to increase human greed and selfishness. It appears, however, that with the constantly and rapid increase in our population, collective effort must be brought forth not only to increase the production of food supplies but likewise to bring about more economic methods of distribution.

"However desirable increase of the production on farms may appear to be from the consumer's standpoint, it does not follow that such an increased production would result in an increase in the cash income per farm or per capita of farm production or that prices paid by consumers would be any lower. The long line of distributors and middlemen between the farmer and the consumer are in a position to take advantage of the market and to a certain extent control the market, because they are better organized to keep informed of market conditions and to act more promptly than either farmers or consumers who are not organized and as individuals are helpless. The high price paid by consumers ranging from five to nearly 500% in some cases more than the farmer receives, indicate that there is plenty of room for lowering the cost of farm products to consumers and at the same time largely increase the cash income per farm without increasing farm production. This condition is undoubtedly the marketing problem which will have to be solved by better organization of farmers and consumers and improved methods of marketing."

It is the Department's desire to give every assistance in the solving of these problems in this state as lies within our power and while the contents of this bulletin are purely applicable to dairying and agricultural pursuits, they may be used generally. The boundaries of co-operation are almost unlimited, as it appears to be the only solution of the present problem confronting not only this state and nation but all other civilized nations of the world, for the reason that co-operation is the most economic principle in existence. In recognition of this fact, several states as well as the Federal Government of late, have made extensive investigations in the methods and extent of co-operation as practiced in some of the older countries of Europe and much valuable information has been gained, which is already being made use of in the nature of legislation that shall provide for co-operative or collective efforts in production and distribution.

The last Session of the Michigan Legislature also recognized the value of co-operative effort by the enactment of a law providing for the organization, regulation and conduct of co-operative companies

and associations which is given in full in this bulletin, together with forms of agreement, articles of association and by-laws. These as stated before are peculiarly applicable to creameries and cheese factories. They may, however, be made use of with a few minor changes for other forms of co-operative organizations. This Department stands ready and willing at all times to assist in the organization of co-operative associations either for productive or for distributive purposes.

COMPARATIVE CONDITIONS OF CREAMERY SYSTEMS.

According to authentic statistics, the amount of butter made in Michigan creameries in 1912 was approximately thirty-five and one-half million pounds. The average price paid for butter-fat by the large corporation creameries or so-called centralizers in Nebraska where this system is in control the first six months in 1912 was 25.8 cents as compared with approximately 31 cents by the co-operative creameries of Minnesota and Wisconsin, a difference of approximately five cents a pound butter-fat which amounts in the aggregate to approximately \$175,000 annually to the cream producers of the state. This does not mean that the large corporation creameries pay on an average five cents a pound butter-fat less than co-operative creameries in the same territory. The reason for the difference in the price received by the Nebraska dairymen and that of the Minnesota and Wisconsin dairymen is primarily brought about through the fact that co-operation has not only resulted in a more economic basis of manufacturing by reserving the manufacturer's profit and returning it to the producer but also because of the fact that the quality of butter manufactured by co-operative creameries generally is far superior in quality to that made by the so-called centralized creameries. This is explained by the fact that in co-operative creameries every patron becomes part owner in the business and naturally for pecuniary reasons delivers his raw material to the factory in better condition knowing that the better the raw material he delivers the better will be the finished product, which will in turn bring a higher price on the market and consequently a higher price to the producer.

CHANGE IN CONDITION.

A great change has recently come over the butter industry of the United States. A year ago a lot of fresh creamery butter that was only a little off from extras sold promptly within one and two cents of the top. This same class of butter sells today from five to eight cents. This condition is partially due to the fact,—first, to an over production in the lower grades, and second in the opening of our markets to foreign goods. The over-production of under-grade butter is primarily due to the fact that no incentive is made to the producers to deliver a better grade of raw material. Frequently cream may be seen at the railroad stations in the larger cities of this state and other states which has reached such a stage of fermentation that it has forced its way out of the top of the cans and flowing over the trucks and platforms of the railway stations. This cream in many cases must be renovated and neutralized with lime before it can be made into even an inferior grade of butter. This in turn is put up in fancy packages and given a highly advertised brand, and put on the market as the best grade of creamery butter. This condi-

tion is already seriously affecting the stability of the dairy and creamery industry of this state having the effect of driving the consumers to using butter substitutes on their tables. A closer and stricter supervision, both Federal and State, in the manufacture of dairy products seems eminent, as does the establishment of local co-operative creameries to again give creamery butter the reputation it once enjoyed.

PROMOTERS.

The present conditions existing in the dairy and creamery industry of the state are being recognized by the professional creamery promoters who have already invaded the northern section of the lower peninsula of this state. It is needless to go into detail as to the methods of these professional promoters, suffice to say that a community that yields to its exceedingly smooth methods pays very exorbitantly for its experience as usually double the actual worth of the plant is paid. Anyone knowing of sections in this state where creamery and cheese factory promoters are operating, will confer a favor on this department for giving it such information.

AN ACT to provide for the organization, regulation and conduct of co-operative companies and associations.

The People of the State of Michigan enact:

Section 1. Any number of persons, not less than five, desiring to become incorporated for the purpose of conducting any agricultural, dairy, mercantile, manufacturing or mechanical business in the State of Michigan upon a co-operative plan, or in accordance with the principles of co-operation, may associate themselves as a co-operative corporation, company, association, society or exchange, and by complying with the provisions of this act, they and their successors and assigns may become a body politic and incorporate.

Sec. 2. For the purposes of this act, the words, "corporation," "company," "association," "exchange," "society," or "union" shall be construed to mean the same, and are defined to mean a corporate body whose earnings are distributed, either wholly or in part, on the basis of, or in proportion to, the amount of value of property bought from or sold to stockholders or other persons, or labor performed for, or services rendered to the association.

Sec. 3. They shall sign and acknowledge written articles which shall contain the name of said association and the names and residences of the persons forming the same. Such articles shall also contain a statement of the purposes of the association and shall designate the city, town or village where its principal place of business shall be located. Said articles shall also state the amount of capital stock, the number of shares and the par value of each.

Sec. 4. The original articles of association organized under this act or a true copy thereof, verified as such by the affidavits of two of the signers thereof, shall be filed with the Secretary of State. A like

verified copy of such articles and certificates of the Secretary of State, showing the date when such articles were filed with and accepted by the Secretary of State, within thirty days of such filing and acceptance, shall be filed with and recorded by the county clerk of the county in which the principal place of business of the corporation is to be located, and no corporation shall, until such articles be left for record, have legal existence. The county clerk shall forthwith transmit to the Secretary of State a certificate stating the time when such copy was recorded. Upon receipt of such certificate the Secretary of State shall issue a certificate of incorporation.

Sec. 5. For filing of articles of association of corporations organized under this act, there shall be paid the Secretary of State the same fees as in the case of the incorporation of manufacturing and mercantile corporations.

Sec. 6. Every such association shall be managed by a board of not less than five directors. The directors shall be elected by and from the stockholders of the association at such time and for such term of office as the by-laws may prescribe, and shall hold office for the time for which they were elected and until their successors are elected and shall enter upon the discharge of their duties; but a majority of the stockholders shall have the power at any regular or special stockholders meeting, legally called, to remove any director or officer for cause, and fill the vacancy, and thereupon the director, or officer so removed shall cease to be a director of said association. The officers of every such association shall be a president, one or more vice-presidents, a secretary and a treasurer, who shall be elected annually by the directors, and each of said officers must be a director of the association. The office of secretary and treasurer may be combined, and when so combined the person filling the office shall be secretary-treasurer.

Sec. 7. The association may amend its articles of association by a majority vote of its stockholders at any regular stockholders' meeting, or at any special stockholder's meeting called for that purpose, on ten days' notice to the stockholders. Said power to amend shall include the power to increase or diminish the amount of capital stock and the number of shares. Provided, that the amount of capital stock shall not be diminished below the amount of paid up capital at time amendment is adopted. Within thirty days after the adoption of an amendment to its articles of association, an association shall cause a copy of such amendment adopted to be filed in the office of the Secretary of State and recorded with the county clerk of the county where the principal place of business is located.

Sec. 8. An association created under this act shall have power to conduct any agricultural, dairy, mercantile, mining, manufacturing or mechanical business, on the co-operative plan and may buy, sell and deal in the products of any other co-operative company, heretofore organized or hereafter organized under the provisions of this act.

Sec. 9. No stockholder in any such association shall own shares of a greater par value than one thousand dollars, or be permitted to vote by proxy, or be entitled to more than one vote.

Sec. 10. Certificates of stock shall not be issued to any subscriber until fully paid, but the by-laws of the association may allow subscribers to vote as stockholders: Provided, That fifty per cent of stock subscribed for has been paid in cash.

Sec. 11. At any regularly called general or special meeting of the stockholders a written vote received by mail from any absent stockholder and signed by him may be read in such meeting and shall be equivalent to a vote of each of the stockholders so signing: Provided, He has been previously notified in writing of the exact motion or resolution upon which such vote is taken and a copy of same is forwarded with and attached to the vote so mailed by him.

Sec. 12. The directors, subject to revision by the association at any general or special meeting, shall apportion the earnings by first paying dividends on the paid-up capital stock not exceeding six per cent per annum, then setting aside not less than ten per cent of the net profits for a reserve fund until an amount has accumulated in said reserve fund equal to thirty per cent of the paid-up capital stock and the remainder of said net profits by uniform dividend upon the amount of purchases of shareholders and to non-shareholders to the amount of their purchases at a per cent one-half as great as that paid to shareholders, which may be credited to the account of such non-shareholders on account of capital stock of the association; but in productive associations such as creameries, canneries, elevators, factories, and the like, dividends shall be on raw material delivered instead of on goods purchased. In case the association is both a selling and a productive concern, the dividends may be on both raw material delivered and on goods purchased by patrons.

Sec. 13. The profits or net earnings of such association shall be distributed to those entitled thereto, at such time as the by-laws shall prescribe, which shall be as often as once in twelve months, but no person or corporation from whom purchases of goods or materials incident only to the carrying on of the business of the association are made, or to whom produce in wholesale quantities is sold, shall in any case be included in the distribution of said profits.

Sec. 14. Every association organized under the terms of this act shall annually, on or before the first day of March of each year, make a report to the Secretary of State; such report shall contain the name of the company, its principal place of business in this state, and generally a statement as to its business, showing total amount of business transacted, amount of capital stock subscribed for and paid in, number of stockholders, total expenses of operation, amount of indebtedness or liabilities; and its profits and losses.

Sec. 15. All co-operative companies, or associations heretofore organized and doing business under prior statutes, shall have the benefit of all the provisions of this act and be bound thereby only when they have filed with the Secretary of State, a written declaration signed and sworn to by the president and secretary to the effect that said co-operative company or association has by a majority vote of its stockholders decided to accept the benefits of and to be bound by the provisions of this act, and by filing and recording articles of association executed by its president and secretary as provided in sections three and four of this act.

Sec. 16. Stockholders and directors shall be severally and jointly liable for all debts for labor performed for such association; and for all goods, wares, and merchandise, sold and delivered to any such association each of the stockholders or directors thereof shall be held liable to the amount of his capital stock therein, and no more; but

no execution shall issue against such director or stockholder individually until a judgment be first obtained for such goods, wares and merchandise against said association, and execution thereon be returned unsatisfied, in whole or in part.

Sec. 17. Service of any notice or legal process against any association formed or existing under this act may be made on the president, secretary, treasurer, general manager, superintendent or any other officer of the association, or upon the agent in charge of any business office of such association within this State, or if neither of such officers or agents can be found, then such service may be made by posting a true copy thereof in some conspicuous place at the business office of the association of this state.

Approved May 14, 1913.

SUGGESTIONS FOR DRAFTING ARTICLES OF ASSOCIATION UNDER ACT 398 OF 1913.

Persons desiring to incorporate a company under Act 398 of 1913 will avoid much delay and a good deal of unnecessary trouble by carefully observing the following suggestions:

The articles must be plainly and legibly written.

The names of the incorporators and stockholders in the body of the articles should be written by the person who prepares the articles, and so plainly that they can be read without error, and the residence of each must be given. These names must correspond exactly in the manner of spelling and the use of initials with the names as subscribed at the end of the articles.

Every person whose name appears in the articles as a stockholder must sign and acknowledge the articles.

The certificate of acknowledgment must state the date of each acknowledgment and should name specifically all persons who appear and acknowledge the articles. It is not sufficient to refer to them simply as "the persons above named."

The name assumed by the corporation must not closely resemble that of any other corporation.

One corporation cannot combine the various purposes provided for in the act.

The articles must state definitely the principal place or places at which its operations are to be carried on. It is not sufficient to state merely the name of the state or county. Some particular place or places must be named.

The organizers must be natural persons. Neither co-partnerships, estates of deceased persons, nor other corporations should be named as stockholders.

It is necessary to execute the articles in duplicate.

The fees which must accompany the articles are a franchise fee of five dollars if the authorized capital does not exceed ten thousand dollars; if above that amount, then at the rate of one-half a mill on each dollar of the authorized capital, and a filing fee of fifty cents and a fee of twenty-five cents for certificates.

In organizing companies like creamery or canning companies where there are to be a large number of stockholders holding small amounts, it will simplify matters very much, and avoid much delay and liability to error, if a few persons, not less than five, organize the corporation. As soon as the articles are filed these persons can assign the stock so held to such persons as desire to take stock and become members of the company.

FORM OF AGREEMENT.

To be used at first meeting.

We, the undersigned citizens of, State of Michigan, do hereby agree to form ourselves into an association for the purpose of

 and to take the number of shares of stock, at the par value, to-wit:.....
 dollars each, and furnish the (milk) (cream) from the number of cows set opposite our names.

Provided, however, That if cows and stockholders are not secured before, 191.., this agreement shall be null and void.

NAME.	ADDRESS.	SHARES.		COWS.	

ARTICLES OF ASSOCIATION

OF

The

We, the undersigned, being of full age, citizens of the United States, residents of the State of Michigan, and desirous of becoming incorporated under the provisions of Act No. 398 of the Public Acts of Michigan, for 1913, entitled:

“An Act to provide for the organization, regulation and conduct of co-operative companies and associations,” do hereby make, execute and adopt the following articles of association, to-wit:

Article 1. Name: The name or title by which this Association shall be known in law is:

.....
.....

Article 2. Purpose: The purpose or purposes of this Association for which it is formed are as follows:

For the purpose of manufacturing of and dealing in milk, cream, butter and cheese and do all things necessarily incidental thereto.

Article 3. Principal Office: The principal office and place of business of this association shall be at in the county of..... and State of Michigan, with its postoffice address at

Article 4. Capital Stock: The capital stock of this Association hereby organized, is the sum of divided in shares of the par value of \$10.00 each.

Article 5. Stock subscribed: The amount of capital stock subscribed, is the sum of

Article 6. Paid-up Stock: The amount of stock actually paid in at the date hereof, is the sum of of which amount has been paid in cash and

Article 7. Number of Directors: This Association shall have and elect annually, a board of five directors.

Article 8. Names: The names of the directors selected for the first year are as follows:

.....
.....
.....
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In Witness, Thereof, We the parties hereby associating for the purpose of giving legal effect to these articles hereunder, do sign our names this day of, A. D. 191..

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State of Michigan—County of—ss.

On this day of 191.., before me a in and for said county, personally appeared,

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.....

known to me to be the persons named in and who executed the foregoing instrument and severally acknowledged that they executed the same freely and for the intents and purposes therein mentioned.

My commission expires

BY-LAWS OF THE

Section 1. The acceptance by a member of a stock certificate shall constitute a contract between such member and the company and assent of such stockholder to these by-laws and to amendments legally adopted.

Sec. 2 Each member of the company becomes subject to, accepts and agrees to abide by these rules and regulations and all future amendments enacted by the company.

Sec. 3. When a note is given the association for stock, it may be paid by a certain percentage deducted from each pound of butter-fat or each one hundred pounds of milk delivered by each such stockholder. Provided, however, That no certificate shall be issued nor any interest paid on any share of stock until it is fully paid.

Sec. 4. Shares of stock shall be non-assessable and non-transferable except as provided in Section 5 of this article.

Sec. 5. All shares must, before issue, be registered on the books of the association, and when surrendered for transfer new ones must be issued in the name of the purchaser, who by acceptance thereof agrees to all the by-laws and rules of the association, including also all amendments that may be legally adopted, and thereby shall become a member of the company. No shares can be transferred until all claims of this company against the owner of such shares have been paid.

Sec. 6. If any member of the association desires to dispose of his share or shares, he shall first offer to sell same to the company at par value; if the company declines to purchase, the member may find a purchaser acceptable to the company and have same transferred to said purchaser on the books of the company in accordance with the rules. If a member removes from the territory and ceases to be a patron of the association and establishes a residence elsewhere, the board of directors shall purchase the share or shares owned by the said non-resident member.

Sec. 7. Sections five (5) and six (6) shall be printed on each and every certificate of stock issued by the company.

Sec. 8. The duties of the respective officers shall be as follows:

Sec. 9. The president shall preside at all meetings of the association. He shall have power to call special meetings of the association whenever, in his judgment, the business of the association shall require it. He shall, also, upon a written request of the ten per cent of the stockholders or three members of the board of directors, call a special meeting.

Sec. 10. The vice-president shall perform the duties of the president when the latter is absent to perform the duties of his office.

Sec. 11. The secretary shall keep a record of all the meetings of the

association and make and sign all orders upon the treasurer and pay over to the treasurer all money which comes into his possession, taking the treasurer's receipt therefor. The secretary shall make a report to the annual meeting of the association, setting forth in detail the gross amount of milk and cream receipts and the net amount of receipts from products sold and all other receipts, the amount paid out for running expenses, the sums paid out for milk and cream, and all other matters pertaining to the business of the association. A like statement shall be made each month and posted conspicuously in the creamery building at the time of the division of the previous months' receipts aforesaid. The secretary shall give bonds in the sum of dollars same to be approved by the board of directors.

Sec. 12. The treasurer shall receive and receipt for all moneys belonging to the association, and pay out only upon orders signed by the secretary. The treasurer shall give bonds in the sum of dollars, same to be approved by the board of directors.

Sec. 13. The board of directors who are elected at the annual meeting for one year shall attend to the general affairs of the association and appoint such agents or officers as in their judgment the interests of the association require. They shall keep or cause to be kept a correct account of all the milk furnished by stockholders or patrons and a correct account of sales. They shall establish prices and have full power of the business of the association, and in all cases pursue such measures as in their judgment will tend to the best interests of the association. They shall make a full report of their doings and a full statement of the business at each regular meeting or whenever called on to do so by the vote of the stockholders.

Sec. 14. The board of directors shall appoint one of their members manager, who shall with the butter or cheesemaker have full control of the sale of all products and the buying of all supplies; but shall confer with the directors from time to time.

Sec. 15. The directors shall have regular monthly meetings on the last Monday of each month.

Sec. 16. A majority of the directors shall constitute a quorum for the transaction of all business at meetings of the directors.

Sec. 17. The directors shall appoint an educational committee of three stockholders to periodically place before the people in printed matter, public meetings or otherwise, the benefits of co-operation.

Sec. 18. The board of directors shall secure the services of a competent operator and pay him the salary they deem sufficient.

Sec. 19. Said operator shall make out and deliver to the secretary on or before the tenth of each month a true statement of the number of pounds of cream delivered by each patron for the preceding month, and the total yield of the factory for the said month, and the number of pounds of butter or cheese, if any, drawn out by each patron.

Sec. 20. It shall be the duty of the operator to take the necessary samples and make the tests of each patron's milk or cream in such manner as required by law or prescribed by the board of directors and to perform such other duties as required by the board of directors.

Sec. 21. The building shall be kept in a clean and sanitary condition by the operator. Smoking and chewing of tobacco shall be prohibited in the creamery. The buttermaker shall enforce this rule strictly.

Sec. 22. The several members shall furnish all the milk or cream from all the cows subscribed by each, all the milk or cream to be sound, fresh, unadulterated, pure and unskimmed, and the patrons of the association, not members, may by agreement with the board of directors, furnish such amounts of milk or cream as may be so agreed upon. The association shall receive all such milk or cream so furnished, manufacture the same into butter, cheese, or both, and sell and receive all moneys for the product.

Sec. 23. Any member or patron of the association found skimming, watering or in any manner adulterating his milk offered at the factory shall forfeit to the association as follows: For the first offense ten dollars; for the second offense, twenty-five dollars; for the third offense he or she shall forfeit all interest in the association and also all claims for milk theretofore delivered to the association. But no such forfeiture shall be adjudged without first affording to the member or patron charged with having so skimmed, watered or adulterated his milk, full opportunity to defend himself or herself from such charge.

Sec. 24. Any member who sends in any bloody or impure milk or any milk from any cow within four days before or after calving, shall if convicted of having done so knowingly, forfeit as prescribed above.

Sec. 25. During the interval between the twentieth of May and the twentieth of September of each year, all milk shall be delivered at the factory as early at least as in the morning and during the remainder portion of the year as early as

Sec. 26. Members and patrons furnishing whole milk may take from the separator or the tank at the creamery of the quantity of milk (in pounds or quantity) delivered at the creamery by them on that day. Any member taking therefrom more than such amount shall forfeit to the association the sum of five dollars for each such offense.

Sec. 27. Any member, without reasons satisfactory therefor to the association, refusing to deliver at the creamery the milk agreed to be there delivered, shall forfeit all interest in the product on hand and stock in the association.

Sec. 28. No milk shall be received or business of any kind transacted on Sundays.

Sec. 29. Patrons of the creamery not living on a cream route shall be allowed such compensation for hauling their cream to the factory as the board of directors may think proper. But patrons living on a cream route shall receive no compensation for delivering their cream.

Sec. 30. If a competitor raises the price of butter-fat above its market value, any stockholder shall have a right to sell his milk or cream to such competitor—provided that one cent per pound of butter-fat is paid to the association for maintaining the creamery.

Sec. 31. All expenses of repairing, insurance, taxes, permanent improvement to or upon the factory, and interest upon the indebtedness shall be paid out of the reserve fund.

Sec. 32. The secretary shall, at the annual meeting, give the report of the business done by the company during the last fiscal year. He shall make out further reports on the request of the board of directors.

Sec. 33. Special meetings of the company shall be called as provided in Section 9.

Sec. 34. members shall constitute a quorum for the transaction of business.

Sec. 35. Ten per cent of the members shall have the right to initiate any measure or policy that they see fit and when such member or members shall present a desired measure to the board in writing, the latter shall refer the same to the stockholders for final action.

Sec. 36. These by-laws may be altered or amended by a two-thirds vote of the members present at any regular annual meeting or any special meeting called for that purpose. In the latter case ten days' notice thereof shall have been given to all the members previous to the time of voting thereon.

Sec. 37. Whenever in the opinion of the board of directors a change in the rules and regulations is necessary, they shall have power to initiate such change and refer it to the shareholders for final action.

Sec. 38. Order of business.

1. Call to order.
2. Roll call of officers.
3. Reading minutes of last meeting.
4. Reports of officers.
5. Report of committee.
6. Reports of education committee.
7. Reports of managers.
8. Communications and bills.
9. Grievances and complaints.
10. Consideration of reports.
11. Election of officers.
12. Filling vacancies.
13. Appointing committees.
14. Unfinished business.
15. New business.
16. Good of the company.
17. Sign minutes.
18. Adjournments.

THE POOR CREAM PROBLEM.

No doubt many of the creamery operators in Michigan and most all other states have been yearning to see somebody "pop up" and perhaps with one mighty stroke solve the poor cream problem, which is threatening the stability of the dairy industry. However, most of us are firmly convinced that the solving of this problem is not a one man's job nor two, but that it will require the combined efforts and co-operation of everyone interested in the production of American butter. But that it eventually must be, and that it therefore will be solved, we also agree. But one thing is certain, so long as creamery men are willing to pay the price of good cream for poor cream, very little co-operation may be expected from the producer, the Farmer. We, of course, fully understand the conditions under which many creameries are working and that

in many instances they are compelled to accept poor cream or suffer loss of patronage.

This Department is doing everything possible with the limited force at its command to prevent the manufacturing into butter, cream that can be classed under our law, as insanitary cream. We are also willing to co-operate with you in doing everything possible along educational lines, that will point out to the farmer wherein he will surely be benefited in bringing only good, sweet, fresh milk and cream to your factories.

The educational scorings being conducted by this Department have been designed principally to point out possible defects, and suggest remedies, and judging from the large number of creameries who are participating in these scorings regularly, it is evident that they are being benefited. The various new features that have been embodied since the inauguration of the present series of scorings have been of much added interest and value. However, there are still many creameries who fail to exhibit a sample of their butter for scoring, claiming that on account of the poor quality of the raw material they are forced to receive, they are unable to make butter that would make a creditable showing. But remember, these scorings are purely educational and not competitive. If the defects in your butter are due to the poor condition of your raw material, then the blame rests with the producer of that poor quality of cream. AND NOW LISTEN: In the future, we are going to issue a form letter to the patrons of your creamery, pointing out to them, if you desire, wherein they are to blame for the defects found in your butter and urging them to co-operate with the butter maker in the production of a better grade of butter, showing them where it will be to their own financial interest to do so. These letters will be sent to the creameries participating in the monthly scorings, there to be mailed or handed out by them. Every effort will be made to phrase these letters so as to bring you only good, clean, sweet, and fresh milk and cream, that will result in a finished product that will be a credit to him and you, and to this great American Dairy Industry. We would be glad to hear from you and receive any suggestions or comments you care to make relative to this last feature in these scorings.

H. D. WENDT,
In Charge Dairy Manufacturing Division.

WARNING TO CREAM AND MILK PRODUCERS IN MICHIGAN.

The legislature of 1913 passed a law relative to the care of milk and cream. Under that law any person who produces or sells any insanitary milk or cream is subject to a

\$100 FINE OR 60 DAYS IN JAIL.

By this law milk or cream is declared to be insanitary if it is produced from sick, dirty or filthy cows, or if produced in dirty or unventilated and unlighted stables, or if transported in rusty or open-

seamed cans, or in cream if produced from an unwashed separator or a separator located in a stable with the cows, or if the cream is so old that it is stale, putrescent or foamy.

Every producer who offers to sell any insanitary milk or cream as defined above is subject to fine and imprisonment. Every cream buyer who buys insanitary cream is subject to the same fine. Every factory owner or employe who manufactures into a food product insanitary milk or cream is subject to the same penalty. Violation of this law will be vigorously prosecuted by the State Dairy and Food Department.

TAKE CARE OF YOUR CREAM.

If you wish to escape prosecution under the new sanitary law you can readily do so by observing the following instructions:

INSTRUCTIONS ON THE CARE AND HANDLING OF MILK AND CREAM.

1. Use milk from healthy cows only. Milk from diseased cows is dangerous to health.
2. Feed the cows sound and wholesome feed and provide pure water. Fermented and unwholesome feed may seriously affect the health of the cow and is sure to spoil the milk.
3. Stable must be clean and well ventilated. A dirty stable is a breeding place for putrefactive bacteria and a poorly ventilated stable breeds disease. Whitewash at least once a year. This can be easily done by a spray pump.
4. The stable should have an abundance of windows. Sunlight is the greatest purifier and germ destroyer known.
5. Do not clean stable until after milking. Cleaning will agitate the air and dust in the stable and cause bacteria and dust to float in the air and get in the milk.
6. Feeds that give off strong odors should not be fed immediately before milking. Milk will readily absorb any strong odor found in the barn.
7. The cows should be kept clean. Clean milk cannot be obtained from a dirty cow.
8. Before milking wipe udder and flanks of the cow with a damp cloth in order to secure milk free from sediment and putrefactive bacteria.
9. Milk with dry hands. Milking with wet hands is a filthy practice and is injurious to the cow as well as the milk.
10. Remove all milk at once from the stable to a clean place free from odors of any kind.
11. Strain the milk thoroughly.
12. The can in which the milk or cream is poured must be free from rust inside and scrupulously clean, otherwise it will spoil in a short time.
13. Cool the milk or cream as rapidly after milking or separating as possible to the temperature of well water.

14. Keep the milk or cream cold while in your possession. If it is allowed to warm up it will sour very quickly. For the same reason never mix warm and cold milk or cream, but cool thoroughly before mixing.

15. Keep the milk or cream in a cool clean place and away from any barnyard or bad odors, as these will otherwise be absorbed by the milk or cream.

16. Milk or cream in process of delivery should be protected from the hot sun in the summer time to prevent it from souring and in the winter time from freezing. In the summer time it is best to place a wet blanket over the can or cans, with a dry one over this, to prevent the wet blanket from becoming dry quickly.

17. The cream separator must not be kept in the stable, but in a room apart from the stable and by itself. This point cannot be too fully emphasized.

18. The cream separator must be taken apart and thoroughly cleansed at least once every day it is used and should be taken apart each time it is used. However, should the separator be not taken apart in the evening, flush it well by running through ten quarts of cold water.

19. The dairyman who offers for sale any cream that is stale, foamy or putrid, will be prosecuted and the cream buyer who accepts cream that is old, foamy, putrid or in old rusty cans will also be prosecuted.

20. Those who have no ice will find it a good plan to take a half-barrel and set the cream can in it and then fill the barrel full of cold water, changing the water three or four times a day. In all cases cool the cream as much as possible immediately after separation.

TO CLEAN AND CARE FOR CANS, SEPARATOR AND OTHER UTENSILS.

1. Wash in luke warm water to which should be added a small quantity of washing powder or sal soda.

2. Scald with boiling water, drain and put them where the sun can shine on them.

3. In cleaning the separator, if it is not found convenient to thoroughly clean it each time it is used, it must at least be thoroughly cleaned every morning and after finishing the separating in the evening the bowl should be thoroughly flushed with cold water by using at least ten quarts of water.

4. The minute a can is emptied of milk or cream it should at once be rinsed with cold or luke warm water, otherwise the milk will dry on if it stands and make washing difficult. Don't pour scalding water in a can or pail before it has been rinsed with cold water. If you do you will scald the old milk on to the can and make its clean washing impossible. When you take the separator apart, rinse in cold water at once to prevent milk drying on and thus making washing difficult.

6. Examine your cans frequently inside for open seams and have them soldered up at once. It is impossible to keep open seamed cans sweet and sanitary.

7. If you wish to build a cow stall in which a cow cannot get dirty write to State Dairy and Food Department, Lansing, for a pamphlet "Clean Cows and Clean Stables." It gives full directions for building the cheapest and best cow stall made. You can build it yourself and it is not patented.

BULLETIN

By C. V. JONES, STATE DAIRY INSPECTOR.

PART ONE.

ALKALINE SOLUTION—ITS PREPARATION AND USE.

Causes of Acidity in Milk.—The development of acid is caused by the breaking down of the milk sugar into lactic acid, through the influence of certain acid forming ferments in the milk. But even sweet milk, immediately after it is drawn from the udder, will have an acid reaction with certain indicators. This acidity is not due to lactic acid nor any free acid in the milk, but to the acid nature of the ash constituents, and possibly to the carbonic acid gas it contains, and to the acid nature of the casein. When Phenolphthalein is used as an indicator, freshly drawn milk will generally show as much as .10 per cent of acid, and immediately after exposure to the atmosphere, lactic acid germs commence breaking down the milk sugar. At a temperature of 70° to 90° F. these germs multiply at an enormous rate, consequently lactic acid will develop very rapidly in milk during a warm or sultry day or night, unless well cooled and kept cool. Cooling retards the action of the lactic germ, but even at a temperature of 45° to 55° F. they will multiply and considerable lactic acid will be formed. Milk intended for cheese-making purposes should not contain more than .20 per cent acid when delivered at the factory; milk does not usually smell or taste sour until it contains .28 to .32 per cent. A further development of acid will cause the milk to curdle, or, in other words, will produce coagulation of the casein. There is, however, a limit to the development of acid; for, after a certain point, the germs which break down the milk sugar are destroyed by the acid they produce, and there is no further increase in acidity.

There are many ways in which a knowledge of the acid content of milk or its products is of value. In most cases, a determination of the percentage of acid in milk when delivered at the factory will indicate the care the milk has received prior to that time. The acid test, also, may be of great value in selecting milk for pasteurization or for retail trade. Also in cheddar cheese making it is of inestimable value in the different stages during the whole process of making.

How to Measure the Acidity.—The measurement of the amount of acid or alkali in a solution depends upon the fact that it always takes a definite quantity of alkali to neutralize a definite quantity of acid. Thus,

for instance, it always takes a definite quantity of caustic soda to neutralize a definite quantity of lactic acid, sulphuric acid, or any other acid. If then, we know the strength of a given caustic soda solution and measure the amount of it used to render a definite amount of milk or cream neither acid nor alkaline, but neutral, we can figure the amount of acid in the sample taken. To make such a determination we require the following:

First: A standard solution of caustic soda usually made of the strength known as .10 normal.

Second: An indicator—some chemical which added to the milk, indicates by change of color when enough of the alkaline solution has been added to render the milk neutral. Phenolphthalein is the one most commonly used for this purpose.

Third: A burette, graduated to 1-10 of a cubic centimeter, in which to measure the amount of the solution used.

Fourth: A pipette, to measure milk or cream.

Fifth: A glass or porcelain cup, and a stirring rod. A complete outfit similar to the above mentioned may be procured from any of the Dairy Supply Houses.

For the information of those who want to make their own alkaline solution or who may wish to check the strength of a solution on hand, the following directions are given:

Preparation of Solutions.—The caustic soda solution may be prepared by a druggist or one who has a delicate balance at hand by carefully weighing out 4.4 grams of pure sodium hydroxide and dissolving in one litre (1,000 c. c.) of water. But impurities in the sodium hydroxide and lack of delicate enough balance make this method unreliable.

The most accurate way of preparing this solution is by standardizing it against an acid diluted to the same strength as the alkaline solution wanted. As it requires an experienced chemist to prepare this acid of the strength required, it is important that it be gotten from a reliable source.

Testing the Acidity of Milk or Cream.—By means of a pipette (a 10 c. c. is a convenient size) measure out a definite quantity of the milk or cream to be tested and deliver into a small glass tumbler or cup, preferably a small whiskey glass. If distilled or rain water is handy rinse out pipette once, and add rinsings to the sample. Dilute with 50 c. c of distilled or rain water and add 3 or 4 drops of the indicator (phenolphthalein). Now having the alkaline solution in the burette carefully note the point at which the surface of the liquid lies in the burette and then cautiously let it drop into the milk or cream being tested. Keep the sample well stirred while adding the alkali. The acid in the sample will gradually be neutralized by the alkali added until at last a uniform pink color appears, which will slowly fade away. The most delicate point is the first change to the uniform pink color, which the sample shows when the acid contained therein has been just neutralized. Because of the influence of carbonic acid of the atmosphere the pink color is not permanent unless a slight excess of alkali solution has been added. The operator should not, therefore, be led to believe by the disappearance of the color after a short time, that the neutral point has not been reached. Having decided on the neutral point, again read the burette at the surface of the liquid, and the difference between this read-

ing and the first is the amount of alkali solution used to neutralize the acid in the sample taken.

The calculation of the per cent of acid is simple. The alkaline solution used is of such strength that when a 10 c. c. pipette is used, the number of cubic centimeters of alkaline solution required to neutralize the acid in the milk or cream has simply to be multiplied by 0.1. Thus, if 5.6 cubic centimeters of the alkali be used then $5.6 \div 0.1 = 56$ per cent acid.

To insure accuracy the utmost care and cleanliness must be observed in every detail of the work. Burettes and pipettes must be kept scrupulously clean and all water used with milk or cream sample, or in making alkaline solution should be either distilled or pure rain water.

The knowledge the operator may gain from such tests will not only make it possible for him to turn out more uniform products, but it will also enable him to act with confidence and more intelligently to pursue the work he may have on hand.

PART TWO.

BOILERS, ENGINES, PULLEYS AND BELTING.

Perhaps of all the apparatus necessary for the manufacture of cheese and butter, and the successful marketing of retail milk, the steam boiler is the most essential. From it we get steam power for operating all other machinery, steam for sterilizing all utensils, and tempering both milk and cream is taken therefrom also, hence the selection, setting and care of the boiler, coupled with the construction of the arch and smoke-stack so as to get the best possible results from an economic, as well as a lasting viewpoint, are matters of vital importance to both cheese and butter manufacturers alike.

SELECTING A BOILER.

When selecting a boiler we should carefully consider the amount of service we are going to demand from it, and then secure one that has capacity sufficient to meet these demands, and is capable of furnishing all the steam required without unduly forcing the fire under it. Remember, a boiler cannot be forced beyond its capacity without injuring it. Also to force a steam boiler means a waste of time and fuel.

SETTING THE BOILER.

When setting the boiler we must be careful to secure a good substantial foundation for the arch and furnace. Unless these points are duly considered good results cannot be obtained.

It is advisable to have a plan of the arch, drawn by some reliable boiler maker. Then have the masonry work done by an expert. Provide good fire brick for the lining and have laid in good fire clay. Build the side walls of the arch eight inches thick with good common brick. This will make it more substantial retaining the heat longer, and thus reduce the cost of fuel.

SMOKE STACK.

The most substantial smoke stack is one that is built of brick. The area should be at least one-fifth greater than the combined area of all the flues. Location largely regulates the height—usually the higher the better.

CAREFUL FIRING OF BOILER.

Newly set boilers should not have fires put under them until the mortar of the brick work has had plenty of time to harden naturally. Then when fire is started heat slowly and let the steam go through all the pipes for some little time before any pressure is put on them.

CARING FOR BOILER.

Perhaps there is not an important piece of machinery in the average country manufacturing plant, where the law does not require that an expert engineer be engaged, that receives so little care as the boiler. And there is not a machine that needs so much care as a boiler. Many boilers have been blown to fragments, ruining property and costing human life through carelessness upon the part of the one in charge. Therefore, before lighting the fire in the morning care should be taken to see that the boiler has plenty of water in it. The glass guage in the water column cannot always be depended upon at sight, therefore it is best to open the tap at the bottom of the glass to make sure that the pipes leading to, or from it, are not stopped with mud or scale. Try the safety valve to make sure that it is in working order. Remember, the safety valve is the most important valve in connection with the boiler. Every boiler should have a blow-off pipe at the bottom. The boiler should also have a surface blow-off pipe to be used as a "scumming" pipe. Nearly all foreign matter held in solution in water on first becoming separated by boiling, rises to the top in the form of what is commonly called "Scum." Much of this scum may be readily removed by the use of a surface blow-off pipe. If this scum is not removed, however, the heavier particles will unite until they have become sufficiently dense to fall through the bottom, where they will be deposited in the form of scale, covering the whole internal surface of the boiler below the water line, making a more or less perfect non-conductor of heat. Excessive use of boiler compound is to be discouraged, but where the water is very hard, some good boiler compound may be used with good results. Ordinarily sal-soda is all that is necessary. However, there are some waters that need to be treated differently. Where the water used for boilers causes undue trouble it is a good plan to have a sample analyzed in the laboratory of a good school of engineering when proper instructions will be advanced for its treatment.

Each day open the bottom blow-off pipe enough to let any mud or lime that may have accumulated, escape. If this is not done, there is danger of the pipe being filled with dirt, thus excluding the water from the pipe. This may result in the pipe becoming hot and bursting, causing great trouble.

ENGINES.

The foundation for the engine should be solid. If possible, have the engine in a room separate from the boiler, as there is always more or less ashes and dust from the furnace and flues, making it difficult to keep clean. Also any grit or dirt lodging on the slides help them to wear out sooner than they otherwise would. The engine requires much care. Some of the chief points to be observed are:

Keep cylinders and pistons well packed to prevent steam from leaking.
Keep engine clean and well oiled.

At all times before starting the engine, open the taps of the cylinder to let the water out, turn the fly-wheel over once and open the throttle valve gradually until engine is in full motion.

PULLEYS AND BELTING.

The following rules of finding the size of pulleys and the required length of belting will be found useful in fitting up a creamery or placing additional machinery.

To find the diameter of a driven pulley, multiply the diameter of the driver by its number of revolutions, and divide the product by the number of revolutions the driven pulley should go.

Example.—Diameter of driver (engine pulley) 20 inches. Speed of engine, 200 revolutions per minute; speed of main shaft 200 revolutions per minute, thus: $20 \times 200 \div 200 = 20$, which is the diameter in inches required for the driven pulley.

To find the required size of a driving pulley, multiply the diameter of the driven pulley by the number of revolutions it should make, and divide the product by the revolutions of the driver.

Example.—Diameter of the pulley in intermediate is 4 inches, which is required to run 900 revolutions per minute; revolutions of shaft 200, thus: $4 \times 900 \div 200 = 18$, which is the diameter in inches of the pulley required to drive the intermediate at proper speed.

To find the length of belt for any two pulleys, add the diameter of the two pulleys together, divide this sum by 2, and multiply the quotient by $3\frac{1}{4}$. Add the product to twice the distance between the centers of the shafting, and the result will be the required length of the belt.

Example.—2 pulleys are 8 and 24 inches in diameter, and 8 feet is the distance between the centers of the shafting. $8 + 24 = 32$, $32 \div 2 = 16$. 16 multiplied by $3\frac{1}{4} = 52$ inches = 4 feet, 4 inches; and 4 feet, 4 inches + 16 (twice the distance between the centers and the shafting) = 20 feet, 4 inches, which is the length of the belt required.

Rules.—To find the circumference of a circle multiply the diameter by 3.1416. To find the diameter of a circle, multiply the circumference by .31831. To find the area of a circle multiply square of diameter by .7854. Doubling the diameter of a pipe increases its capacity 4 times.

"PERTINENT POINTERS FOR CHEESE-MAKERS."

BY C. V. JONES, STATE DAIRY AND FOOD INSPECTOR.

Cheese-making is an art worthy the adoption, as a life calling, on the part of the finest brawn and intellect in the land. So often one hears it said that the manufacture of dairy products is a common task and menial, as compared with many of the arts of the present age.

All work is ennobling. There is not a task performed, that serves humanity, and calls for intelligence, thought and skill, no matter whether overalls or broadcloth are worn in the carrying out of that task, that can truly be called common or menial.

It is true that many vocations demand and require, on the part of the operator, a greater degree of thought, skill and intelligence, than do others.

This truth may indisputably be applied to cheese-making.

The cheese-maker, who would achieve the greatest success today, must be thoughtful, intelligent and skillful.

He must be the best posted man, in matters pertaining to his profession, in the community in which he may happen to be located.

The average patron of a cheese factory is an agriculturist and devotes most of his reading time to matters relative to tilling and fertilizing the soil, and the rotation of crops, etc. Strange though it may seem, this same agriculturist supplies our cheese factories with milk, but spends little, if any, time in the study of dairying. In many communities the patrons of cheese factories have generously credited the cheese-maker with being a "walking encyclopaedia" of dairying, and are willing to let him solve any dairy troubles they may have, and it is up to him to make good.

We should not, by any means, relieve the patron of all responsibility, but he has a perfect right to feel that the cheese-maker is the logical party to whom he may go with his dairy troubles, and from whom he may seek information, instruction and advice as to the best methods of handling a dairy herd so as to make that herd produce large quantities of valuable milk at the lowest possible cost to the patron.

The cheese-maker, who is always prepared to help his patrons when they seek his advice and counsel, will find that he will need to do a good deal of careful reading and will also need to be very observant.

He will also find that he will be much in demand and will be much respected as a valuable and worthy citizen in the community. Such a man cannot fail to make a success as a cheese-maker or manager.

Of course, the cheese-maker must be a master of his own particular work, namely, cheese-making. During the cheese-making process, he should use the finest of intelligence and good judgment, know every step taken and why.

The following pointers may be studied to great advantage.

You cannot make strictly fine cheese from milk that is over-ripe or tainted.

If you are a progressive cheese-maker, you will study the causes of tainted milk and seek to apply remedies.

Milk may become tainted from:

- (A) Feed unsuitable for milking cows;
- (B) Injudicious feeding;
- (C) An impure water supply;
- (D) Want of salt by cow;
- (E) Absorption of bad odors;
- (F) The germs that get into milk at milking or after.

Milk for cheese-making should be delivered at the factory in a sweet condition, cooling the milk immediately after being drawn from cow will keep it in good condition for twelve hours (12 hrs.).

To keep milk sweet for thirty-six hours, (36 hrs.) it must be cooled to, and kept below sixty degrees Fahrenheit, (60° F). Fifty degrees would be better and is possible where ice is attainable.

The running of milk over an aerator will do much toward cooling it and thus improve its quality but if the aeration takes place in the stable or barnyard foul odors are apt to be absorbed and the milk injured in quality. Aeration, if practiced, should take place in pure open air away from farm buildings.

A common source of bad flavor and gas producing bacteria, is road dust, or the dust in and around the stables and barnyard, hence, to keep milk in the best condition for cheese-making, it must be cooled quickly to keep it sweet, and kept away from the air in and around the stables as much as possible to prevent undesirable bacteria from getting into it.

Milk must be covered as soon as cooled to prevent dust, leaves, etc., from getting into it while held, and also to prevent a leathery cream forming on it.

Attend personally to the taking in of the milk as far as possible.

Keep your weighing stand and everything thereon thoroughly clean, especially your own person. You have no right to require the patrons to furnish clean milk unless you set a good example. Example is better than precept. Far too many cheese-makers are careless about their own personal cleanliness. These men usually find that they have little or no influence with their patrons, and usually are the ones that are getting into trouble every now and then requiring help from some outside source.

Acquaint yourself with the "fermentation test" and then make fermentation tests of each patron's milk as frequently as possible. By this means you will often locate tints which are not discernible when the milk is being received.

When setting a vat of milk, an acid test should be made, and the amount of rennet used should be sufficient to coagulate the milk, fit for cutting, in at least thirty minutes at a temperature of eighty-six Fahr.

The importance of using an acid test in cheese-making cannot be too strongly emphasized, because it will be absolutely impossible to make cheese, from day to day, uniformly, unless the milk carries, practically the same degree of acidity when set each and every day.

Milk should carry such a degree of acidity when the rennet is added, or when set, that the curd will be well cooked and have sufficient acid to remove the whey in two or two and a half hours.

When cutting the curd always aim to make the cubes of uniform size, and follow any course that will secure such results. When cutting the curd it is advisable to use the horizontal knife first, cutting lengthwise of the vat, then crosswise and lengthwise of the vat with the perpendicular knife. Have perfect control of your knives and walk fast enough to keep the curd from moving ahead of the knives and thus escape being uniformly cut into cubes.

A curd that is allowed to get too firm cannot be as well cut as one that is "just right."

Too much stress cannot be laid upon the importance of having the cubes of curd, as far as is possible, uniform in size. If the cubes of curd are uneven in size, there will be different kinds of curd in one vat when the whey is removed, because the smaller particles harden first and do not show acid as quickly as the larger and soften ones do. Heat expels moisture and contracts the curd, and the smaller the cubes, the more readily will the moisture be expelled, and the greater will be the contraction of the curd.

In stirring the curd while heating, or "cooking" remember that what you are handling is fragile in the extreme and that if you do not stir very gently at first your loss will be extremely great. Many cheese makers cause more waste at this stage than twice their wages amounts to, so be "gentle" with the curd.

It is advisable to use the McPherson curd rake for stirring the curd. With it the curd can be kept moving in the whey, constantly, while cooking it. The McPherson curd rake was invented by him and is especially adapted for large vats. It is one of the simplest, and at the same time, most effective "stirrers" procurable. Any one can make it. The teeth are flat and made of one-quarter inch hard wood three and a half inches broad at the bottom and one and a quarter inches at the top, where they are mortised into the head. The head is three inches square and must be made of hard wood. The teeth are about twenty inches in length.

When pulling this rake along in the vat there is created a boiling motion as the whey is forced through the lower and more narrow space between the teeth, and thus the particles of curd are driven from the bottom of the vat and kept in suspension constantly. I have succeeded in persuading several cheese-makers to install this rake and they one and all say that they don't know how they got along without it before, as they would not do without it now for anything.

Try it. You can get one made for the small cost of one dollar and fifty cents.

Cheddar Cheese is considered to be the finest type of cheese manufactured. In almost every State where the manufacture of cheese is carried on extensively we find large quantities of cheese made after the Cheddar type. Cheddar Cheese is the safest type of cheese to make because of its keeping quality. The per cent of shrinkage accompanying the holding or long storage of this type of cheese is far less than that of the softer type of cheese. To the cheese-maker, who is making cheese with the Cheddar type in view the following pointers will be valuable:

The whey should not be removed until the curd has a somewhat firm, elastic character and is what is generally termed properly "cooked."

The curd should be firm, elastic and "well cooked" before there is any appreciable development of acidity.

Failure to have the curd firm before the whey is removed results in "tender bodied" acid cut cheese.

If difficulty is experienced in getting the curd firm at the proper stage, run off as much as possible of the whey as soon as heating is finished without tipping the vat and stir the curd vigorously.

If the acidity of the milk exceeds .20% by the acid test at the time of setting, the probabilities are that much difficulty will be experienced in getting the curd firm or elastic in character at the proper time, that is, before too much acid has developed. Under such conditions, it is well as soon as the curd is heated to draw off as much as possible of the whey without tipping the vat and add good clean water raised to the temperature at which the curd was heated sufficient to cover the curd and stir constantly until the curd is properly "cooked" or until the curd is elastic in character.

If difficulty is still experienced in getting the curd firm, the cooking temperature should be raised.

It is generally advisable to raise the cooking temperature several degrees as the season advances and milk becomes richer in fat content. In many districts as the season advances the cooking temperature will need to be raised as high as 105 to 107 degrees Fahr., indeed in some instances, it is advisable to heat the curd as high as 102 to 105 Fahr. in midsummer. However, the temperature should never be raised higher than is necessary at any time of the year. The cheese-maker who would attain the very best success, must use good judgment and be very observant when cooking the curd. He should note carefully the results obtained under different conditions from day to day. Milk does not "work off" the same any two days in succession. When the whey is removed, the curd should be stirred on racks, placed on the bottom of the vat, or in special "sinks," having rack bottoms.

The cloth used on these racks **MUST BE KEPT CLEAN**. Bad flavors in cheese have been traced to filthy rack cloths and other filthy apparatus used in manufacture.

There should not be more than one-quarter of an inch of acid by the hot iron test when the whey is removed, nor more than .18% by the acidmeter.

It requires good judgment to determine the amount of stirring the curd should receive before being allowed to "pack." Cheese-makers should study this point carefully, because it has an important bearing on the texture and body of the finished cheese. The amount of stirring the curd receives affects the yield very materially also.

While it is important that the amount of cheese made from a hundred weight of milk should not be lost sight of, we must never sacrifice quality in the interest of quantity. The demand of the dairy world is not for more dairy products so much as for better dairy products. **QUALITY**, quality, let it ring continually in our ears. We cannot afford to lose sight of the importance of quality.

The curd while maturing should be protected with a clean cover. If a cloth is used to cover the curd, it should not be allowed to rest on the curd.

A cloth cover made from cotton makes a very satisfactory cover, but

we must be careful to keep it sweet and clean by frequently scalding and airing it. Sun and Air are Nature's purifiers.

If too much moisture has been allowed to remain in the curd, mill it early. In any case, curd should be milled one hour before it is salted.

After milling the curd, stir frequently, as this will very materially aid it maturing.

"Gassy" curds should be well aired.

In piling curds, do not pile too deeply, as deep piling tends to make curds "greasy," salt earlier and let them stand longer before putting into the press.

Curds that are allowed to become "greasy" never make as fine a quality of cheese and the mechanical loss is very much increased.

The application of salt retards, but does not stop the changes that are taking place in the curd.

Cheese buyers today are not only demanding a finer quality of cheese, but are also demanding a greater uniformity in quality. That is that a shipment of cheese covering two weeks' make, or more, shall be uniform.

Now in order to secure a uniformity in any manufactured product, we must do the work systematically. No manufacturer can hope to produce a uniform product unless he adopts a system and adheres to it closely and intelligently day after day. Neither is it enough that a few adopt a system but all should as far as possible, adopt the same system, providing the type desired is the same. In Michigan the type of cheese manufactured is almost universally the same, but owing to a lack of system many cheese are manufactured that fall short of the intended type.

It is acknowledged by all cheese authorities that the Cheddar cheese are the finest cheese to be found on the market and are as a rule more uniform and true to type than any other type of cheese. This is largely due to the fact that the system of manufacture is everywhere practically the same.

We cannot afford—we must not—be willing to pursue a guess system, for this is not system at all. Guessing did well enough in the more primitive days when our grandmothers made what was called cheese simply to utilize the milk because there was no other means of disposing of it. The modern up-to-the-minute cheese-maker cannot afford to follow cheese-making without first acquainting himself with the best acid tests and use them hourly all through the cheese-making process. He, too, must understand the propagation of a pure culture and its intelligent use.

The cheese-maker who thoroughly understands the handling of starters and the use of the acid test, providing he secures a fairly good quality of milk and handles it intelligently, can produce a fine and uniform cheese day by day no matter what the type.

The type of cheese manufactured in a given community or State is of little importance so long as a ready market is to be found for the output. But uniformity is of supreme importance independent of the type. Since the convention held in Saginaw I have received numerous letters from cheese-makers seeking advice as to the best kind of acid test to use. And as there may be others who purpose adopting the use of the acid test, I want to say that both Mann's acid test and Marschall's acid test are reliable and accurate if used with care.

Personally, I prefer the Marschall acid test because of its simplicity, and in the average cheese-maker's hands it is safer because it gives a straight reading without having to trouble with figures in the busy hours of the day. The Marschall acid test is sold complete, which includes a combined bottle and burette for a "neutralizer," or an "alkaline" solution, one 9 c. c. pipette, one bottle of indicator and one-half gallon of neutralizer. The whole may be secured for four dollars, and may be purchased from the Ladd Company of Saginaw, or any other supply house. With this test a set of instructions is furnished, but I would suggest that unless one has had previous experience with the use of an acid test he have someone instruct him in its use who has used the test successfully. The Dairy and Food Department will, upon request, gladly supply a man to instruct any cheese-maker in Michigan in the use of this test. There are dangers to avoid in the use of the test, especially in cheese-making. The error of a couple of points will get the cheese-maker into serious trouble, hence the need of careful instruction.

Being well-informed in the use of this test finer and more uniform results are assured by its use than without. Cheese-makers who are "color blind" must not attempt its use.

Many a cheese-maker has fallen down in the use of the test due to being "color blind."

It is not enough to know how to do certain things, we should know why.

The application of salt, to a curd, retards but does not stop the changes that are taking place in the curd.

When filling the hoops pack the curd well in the center, so that when pressure is applied the curd will close up in the center first, thus giving the air and whey a chance to escape around the sides of the hoops.

Do not put on much pressure at first. Press gradually. "A little and often" is a good rule to follow for the first hour.

See that press is kept tight, after the first hour, until cheese are taken from the press, and at all times leave cheese in press at least 24 hours or even 48 hours if there is press room.

Many cheese are too loose and show mechanical holes because of not being well pressed.

Salt gives a flavor to cheese and assists in expelling moisture.

Salt varies greatly in weight owing to its quality of absorbing moisture and giving it off again. It is therefore evident that salt should be kept in as dry an atmosphere as possible.

It is extremely essential that we know just how much milk we have in the vat. Decide the per cent of salt we want to use to the thousand pounds of milk, and then weigh each amount of salt used.

Cheese should be kept in the press at least, until the next batch is ready for the press.

The best temperature for curing cheese is certainly not over 65 degrees Fahrenheit, 58 to 65 degrees Fahrenheit is a good cheese curing temperature.

Cheese cured or ripened at 56 Fahrenheit shrink less and are always finer in texture and cleaner in flavor.

As a cheese-maker you should use all your influence towards securing better sanitary conditions both around the dairy and factory. The fac-

tory you have largely under your control and you must keep it sanitary.

Flies must be kept out of the factory. It is simply disgusting to see swarms of flies hovering over a vat of milk and many of them bathing in the milk after coming from the stench pits and filthy roads. Flies transmit more filth and are a cause of more bacterial trouble than perhaps any other single agency; so make war on the flies.

If the whey is returned to the farmers in the milk cans, it should be heated to 165 degrees Fahrenheit in the whey tank, and wherever practicable the whey should be run through a whey separator.

The whey tank should be emptied and cleaned daily, this will do away with the sour whey odors so often prevalent around cheese factories and insure cleaner milk cans.

THE MICHIGAN FOOD AND HEALTH SPECIAL TRAIN.

One of the greatest educational features ever offered people of the State of Michigan was the food and health special train which just recently completed a tour of the lower peninsula. This train was sent out by the Michigan State Board of Health and the Dairy and Food Commission and brought a most forceful message to the hundreds who visited it.

The Dairy and Food Car was of keen interest and carried its lessons to every farmer, housewife, user and purchaser of foods and drugs. Commissioner James W. Helme's vigorous campaign against "cure-all" remedies, beauty lotions and other doubtful productions which have been placed on the market is well known and a display of these articles was effectively presented. The purchaser was told just what is contained in the packages sold and its practical efficiency.

Many adulterated and impure foods were shown, foods that are being sold to unknowing purchasers. A new law, effective August 14th, makes it unlawful to present any misleading advertisement. Specimens of such deceptive advertising were on display and purchasers learned that they have been paying fancy prices for oleomargarine under the belief that they were buying butter or securing chicory though paying for coffee.

Another law gives the Dairy and Food Department the authority to inspect weights and measures so the methods by which the purchaser has been cheated out of a goodly portion of what he paid for is unusually timely. On a regulation peck measure filled with potatoes was the placard, "What he should get"; in a partially filled measure was "What he does get" when the dealer uses the common bottomless measure, while above six or eight potatoes was the telling legend, "What he don't get." Berry boxes which cause the consumer to lose four quarts out of a bushel looked familiar. Dented measures, drilled weights and scales which had been tampered with were on display.

That some food manufacturers really evade the law governing the correct labeling of goods, was proven by the considerable number of packages which are often seen on the dealer's shelves. The use of copper

sulphate in coloring vegetables was clearly demonstrated, while coal tar colors that are used in candies were brought forcibly to your attention by seeing the pieces of wool yarn shown along with samples of candy, dyed with the dye which was extracted from the candy.

Considerable attention was paid to the dangers of impure milk and graphic illustrations of the filth which is found in this popular beverage are in evidence. A model dairy arrangement, together with the latest equipment, was especially interesting to farmers and dairymen. Among other things was seen a model of a cow stall which can be built by any farmer and is satisfactory from every standpoint. The importance of milk as a food was impressed upon visitors by a comparison with other food values, making a most effective argument for the cheapness and nutriment of milk.

An exhibit of meat affected by tuberculosis was a source of educational interest to all. The specimens were taken from slaughtering establishments by Federal meat inspectors. In connection with this, a lecture was given by Dr. Clark H. Hayes of the United States Department of Agriculture.

"Mothers' milk for babies—cows' milk for calves" was the title of a poster that brought out the reason why so many children die in infancy. The fly also came in for an added indictment as the car emphasized the point that 90% carry with them the germs of typhoid, cholera infantum, tuberculosis or infantile paralysis so the slogan adopted reads "No filth, no flies—kill flies, save lives."

An exposure of dangerous drug "cures" was made and the abuse of testimonials shown. For instance, five testimonials told how the individuals were cured of consumption by taking "Nature's Creation," a fake consumption cure, while the death records show that the "cured" were in their graves.

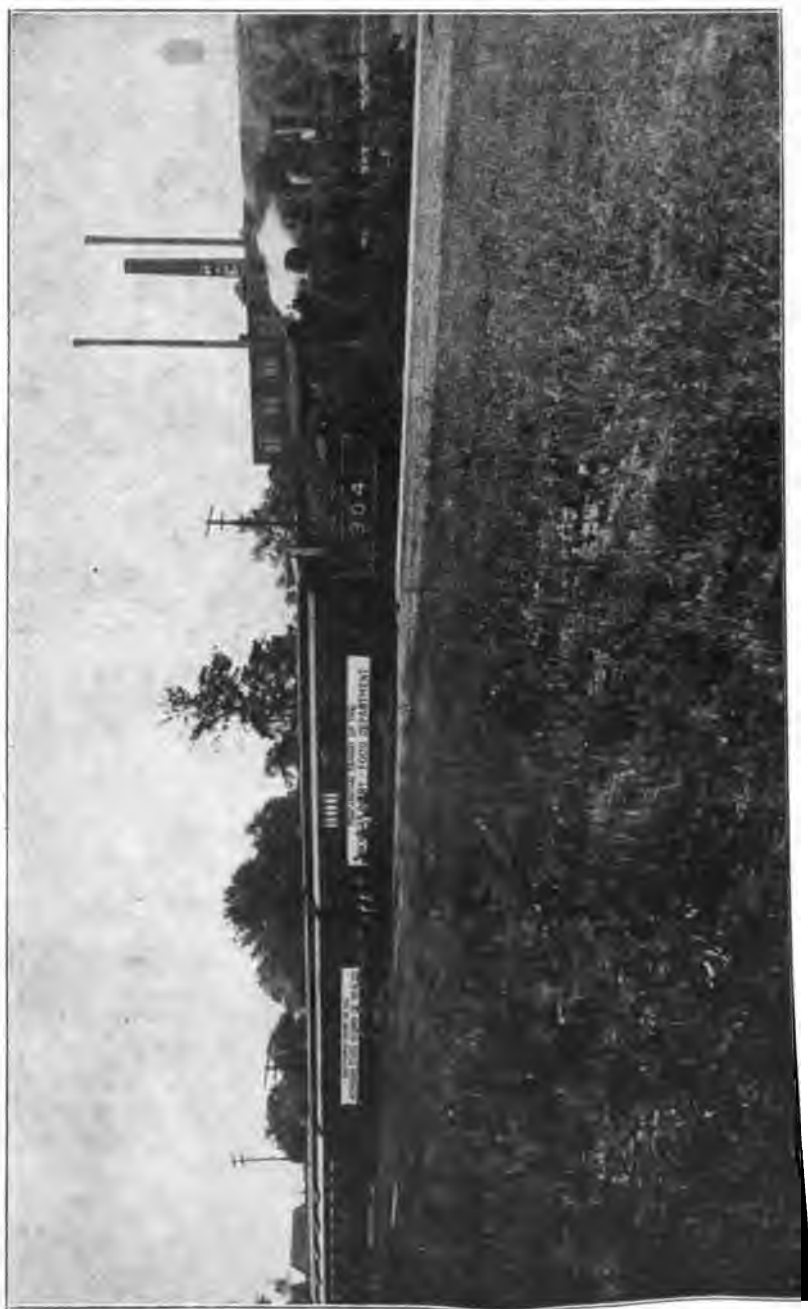
Many other fake drug preparations were exposed by means of placards which explained in detail the nature of the preparation, what was claimed for it and what it would do in actual practice.

The car was accompanied by experienced demonstrators, who explained everything in detail and answered questions. James W. Helme, Dairy and Food Commissioner; F. L. Shannon, State Chemist; A. R. Todd, Drug Chemist; B. B. Lincoln, Inspector of Weights and Measures, represented the Dairy and Food Commission, while Dr. C. H. Hayes represented the U. S. Department of Agriculture as an expert on tuberculosis in cattle.

It is estimated that over 60,000 people passed through the cars during the time the train was on the road, receiving the benefit of the talks in the various exhibits and carrying away thousands of pamphlets and bulletins which explained many things more fully than could possibly be done while in the cars. In this manner education in Food and Health topics reached many who did not have the opportunity of visiting the train.

The entire equipment of the train was furnished gratis by the railroads, with the exception of the Pullman coach. The Lake Shore and Michigan Southern Railroad furnished this department with a sixty-foot baggage car, while the Michigan Central furnished the Board of

Health with a similar car. The roads over which the train ran cheerfully furnished us with a crew and an engine and the train was handled during the entire trip in a most excellent manner. It was only due to this benevolent attitude on the part of the railroads that this educational propaganda was possible.



FOOD AND HEALTH SPECIAL WHICH TOURED THE STATE OF MICHIGAN DURING AUGUST AND SEPTEMBER, 1913.



INTERIOR OF MICHIGAN DAIRY AND FOOD CAR FROM FRONT END OF CAR.



INTERIOR OF MICHIGAN DAIRY AND FOOD CAR FROM REAR OF CAR SHOWING A PART OF THE PATENT MEDICINE EXHIBIT.



INTERIOR OF MICHIGAN DAIRY AND FOOD CAR SHOWING EXHIBIT ON WEIGHTS AND MEASURES AND GENERAL ARRANGEMENT OF SMALL DAIRY HOUSE COMPLETELY EQUIPPED ON THE LEFT. SPECIMENS OF TUBERCULAR MEAT ON THE TABLE AT THE RIGHT.



A PART OF THE FOOD AND LINED OIL EXHIBIT ON LEFT. FAKES AND FRAUDS EXHIBIT IN BACKGROUND.

INSPECTIONS—HOW REPORTED.

Inspections of creameries, cheese factories, farm dairies and city milk supply are reported in the bulletins issued by the Department. By

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts, pounds.	Milk butter, pounds.	Sanitary surroundings.
Allegan County, May:					
Boyland Cream Station.....	Pullman.....	Boyland Creamery Co.....			Fair...
East Saugatuck Creamery.....	East Saugatuck.....	J. Seibelink.....	1,490,000	66,944	Fair...
Holland Crystal Cream Station.....	Pullman.....	Holland Cry's'l C'y Co.....			Fair...
Holland Crystal Cream Station.....	Bravo.....	Holland Cry's'l C'y Co.....			Good...
R. Hunziker Cream Station.....	Pullman.....	Robt. Hunziker.....			Fair...
Pearle Cooperative Creamery.....	Pearle.....	A. L. Brown.....		83,316	Fine...
Cheboygan County, May:					
Wolverine Creamery.....	Wolverine.....	H. Kanable.....		20,000	Good...
Huron County, May:					
Freeman Dairy Co.....	Bad Axe.....	D. B. Kelley.....			Good...
Michigan Creamery Co.....	Bad Axe.....	M. H. Smith.....			Good...
Parisville Cream Station.....	Parisville.....	Ruth Creamery Co.....			Good...
Port Huron Creamery Co.....	Ruth.....	C. Cook.....			Good...
Port Huron Cream Station.....	Bad Axe.....	James Haley & Co.....			Good...
Ruth Creamery Co.....	Ruth.....	J. Wahle.....	189,107		Good...
Ionia County, May:					
Boyland Cream Station.....	Muir.....	J. D. Strachan.....			Good...
Durand Cream Station.....	Muir.....	Palmer & West.....			Good...
Swift & Co. Cream Station.....	Muir.....	H. S. Campbell.....			Good...
Iosco County, May:					
Iosco Creamery Co.....	Whitemore.....	M. Jensen.....		100,000	Good...
Lenawee County, May:					
Jasper Creamery.....	Jasper.....	W. A. Barnaby.....	3,600,600		Fair...
Maple City Creamery.....	Adrian.....	W. A. Barnaby.....	1,690,000	347,270	Fair...
Towars Skimming Station.....	Ennis.....	Towars Wayne Co. Cry.....			Good...
Towars Milk Depot.....	Munson.....	Towars Wayne Co. Cry.....			Good...
Towars Milk Depot.....	Sand Creek.....	Towars Wayne Co. Cry.....			Good...
Macomb County, May:					
Meyers Skimming Station.....	Meyers.....	Chesterfield Cry. Co.....	1,304,000		Good...
New Baltimore Creamery.....	New Baltimore.....	New Baltimore Cry. Co.....	864,519	53,604	Good...
Port Huron Cream Station.....	Richmond.....	Port Huron Cry. Co.....			Fair...
Richmond Creamery.....	Richmond.....	Wm. Zentzrebe.....		98,554	Good...
Spencer & Howes Cream Station.....	Richmond.....	Spencer & Howe.....			Fair...
Otsego County, May:					
Gaylord Creamery Co.....	Gaylord.....	Sam Sellers.....			Good...
Ottawa County, May:					
Crisp Creamery Co.....	Crisp.....			98,000	Good...
Hudsonville Cooperative Creamery.....	Hudsonville.....	J. VanDerheide.....		187,000	Fair...
Vriesland Creamery Co.....	Vriesland.....	H. Rock.....			Good...
Sanilac County, May:					
Applegate Creamery.....	Applegate.....	W. T. Leonard.....		150,000	Good...
Croswell Creamery Co.....	Croswell.....	Wm. Smith.....		76,160	Good...
Forestville Cream Station.....	Forestville.....	W. J. Moore.....			Good...
Medina Creamery Co.....	Minden City.....	W. J. Moore.....			Good...
James Miller Cream Station.....	Croswell.....	James Miller.....			Good...
Port Huron Cream Station.....	Deekerville.....	Wm. Pomeroy.....			Good...
Port Huron Cream Station.....	Carsonville.....	L. A. Graham.....			Good...
Port Huron Cream Station.....	Applegate.....	Port Huron Cry. Co.....			Fair...

way of explanation the following pages are reprinted from a monthly bulletin. These bulletins, containing reports of inspections as shown on the pages reprinted, will be mailed to parties applying for same.

CREAMERIES.

[illegible]

STATE OF MICHIGAN.

INSPECTION OF

Name.	Location.	Owner or manager.	Yearly milk receipts.	Make cheese.	Style.
Montcalm County, January:					
Carson City Cheese Co.	Carson City	F. H. Miner	1,500,000	150,000	Soft Michigan.
Saginaw County, January:					
Rogner & Son	Gera	M. G. Rogner	1,000,000	100,000	Michigan.....
Gratiot County, February:					
Elm Hall Cheese Factory	Elm Hall	W. H. Earls	300,000	30,000	Soft Michigan
St. Clair County, February:					
Maple Grove Cheese Factory	Marine City	Maple Grove Cheese Co.	614,402	61,908	Limburger....
Huron County, February:					
Rice Bros. Cheese Co.	Elkton	S. B. Rice	600,000	60,000	Michigan.....

INSPECTION OF

Name.	Postoffice.	Patron of.	Total No. of cows.	No. of cows giving milk.	Daily production of milk in pounds.	Breed.
Montcalm County, January:						
Isaac Pechtel	Carson City	Self	2	2	30	Graded.....
Shiawassee County, January:						
Ed. Angus	Owosso	Self	4	1	12	Graded.....
St. Clair County, January:						
Frank Simpson	Port Huron	Geo. French	7	5	15	Mixed
Montcalm County, February:						
J. E. May	Stanton	Self	5	4		Jerseys.....

CHEESE FACTORIES.

Cheesemaker.	Sanitary surroundings.	Equipment.						Quality of milk.	Starter.
		Vats.	Presses.	Curd milk.	Whey tank.	Renact test.	Boiler.		
F. H. Miner	Good	2, fair	2, gang		Fair		12 H. P. ..	Good	
Max G. Rogner	Good	2, Good	2		Good		20 H. P. ..	Good	
Roy Wilkinson	Fair	1, good	1, gang		Fair		8 H. P. ..	Good	
G. Young	Good	1, clean	Autom'e		Fair	Mar'll ..	4 H. P. ..	Fair	
I. Rice	Good	2, good	1, gang		Good			Good	

DAIRIES.

Ration.	Stable.			Cows kept clean.	Water.
	Clean and sanitary.	Ventilation.	Light.		
Hay, bran	Fair	Door	No	Yes	Tubular well.
Cornstalks, ear corn	No	Hay loft	No	No	Tubular well.
Fodder, hay, bran	Yes	Door-Windows	Fair	Yes	
Oats, hay, corn, cooked beans	Fair	Hay chute	Fair	Yes	

INSPECTION OF CITY MILK SUPPLY.

Name.	Health of herd and its protection.	Cleanliness.	Construction and care of utensils.	Health of employees and manner of milking.	Handling of milk.	Total.	Sanitary surroundings.	Quality of milk.			
								Per cent butter fat.	Lactometer.	Total solids.	Solids not fat.
Cadillac, May:											
John Anderson.....	80	90	78	90	20	358	Poor.....				
Frank Anderson.....	72	75	55	65	55	322	Poor.....				
C. O. Dahlquist.....	80	85	72	73	77	387	Poor.....				
Harold Green.....	80	93	83	90	80	426	Medium.....				
Wm. Hofstra.....	77	80	83	86	80	406	Medium.....				
Chas. Jacobson.....	73	80	73	87	50	363	Poor.....				
Wm. Kimble.....	90	87	85	91	88	441	Medium.....				
L. Larson.....	80	100	83	92	80	435	Medium.....				
Geo. Ley.....	85	82	83	87	91	428	Medium.....				
Morning Side Dairy.....	100	100	91	95	92	478	Good.....				
Chas. Omsted.....	75	80	50	63	40	308	Poor.....				
Harry Zelma.....	75	90	78	90	88	421	Medium.....				
Charlotte, May:											
W. H. Childs.....	82	68	91	76	90	407	Medium.....				
Ypsilanti, May:											
A. H. Ainsworth.....	100	95	85	96	100	476	Good.....				
O. H. Ainsworth.....	98	95	85	96	100	474	Good.....				
Jay Kapp.....	93	90	85	95	100	463	Good.....				
Sidnaw, June:											
W. S. Prickett.....	100	100	100	95	100	495	Excellent.....	6.4	31	15.43	9.03
Traverse City, June:											
Tom Brady.....	80	95	80	90	35	430	Medium.....				
Adolph Brosch.....	100	100	85	95	100	480	Excellent.....				
Kapnick & Olson.....	80	95	83	95	100	453	Good.....				
Bert Kilmer.....	90	100	85	95	100	470	Good.....				
Steve Lautner.....	83	95	85	95	95	453	Good.....				
Owen Merrill.....	80	80	80	95	80	415	Medium.....				
Geo. Sachleben.....	80	95	85	95	90	445	Medium.....				

STATE ANALYST'S REPORT.

July 1, 1914.

Hon. James W. Helme, State Dairy and Food Commissioner, Lansing, Michigan:

Dear Sir—I herewith beg to report on the work done in the laboratory of the Department during the fiscal year beginning July 1st, 1913, and ending July 1st, 1914.

A total of 2,398 samples were analyzed and reported on. Of this number, 1,719 included foods, food colors, linseed oil, preservatives, etc.; 108 were feeding stuffs and 571 were drug preparations. Of the 1,719 samples of foodstuffs, etc., 717 or 42% of them were classed as adulterated, misbranded or formed the part of an illegal sale. The samples that were so classed appear in the following summary and are more fully explained in the appended report. The remaining 1,002 samples were found to comply with the statute and therefore appear only in the general summary. The 108 samples of feeding stuffs appear in tabulated form in the appended report.

It will be noted that in the general summary the samples are classified as adulterated, misbranded or illegal. In order that these classifications may be clearly understood, an explanation will not be out of place. Formerly, but two classifications were employed by the laboratory, viz., adulterated and misbranded, but we found that these two did not properly classify all samples. Therefore, we added a third classification under the caption, "Illegal." All samples that are in violation of the law might be termed illegal, but here it has a different meaning. The law defines when a sample is adulterated and when it is misbranded, but the term illegal is applied to a product that in itself is not adulterated or misbranded, but does form the part of an illegal sale in violation of the law. An inspector of the department buys a package of oleomargarine. He sends it to the laboratory as oleomargarine for the purpose of ascertaining whether the sample is what it is purported to be and whether it is adulterated within the meaning of the law. If we find it to be pure oleomargarine, uncolored and properly labeled as far as the sample is concerned, it could be passed. However, if the inspector has reported that no sign was displayed in compliance with the law in the place where this sample was obtained, we then classify this sample as illegal for the reason that it has entered into a part of the transaction when the law was violated for then the sample of oleomargarine was kept for sale, offered for sale and sold in violation of the law.

As a number of new laws passed by the last legislature went into effect August 14th, 1913, the enforcement of many of these laws required the examination and analysis of a number of samples. Especially is this true in the enforcement of the law known as the "Sausage Act." It will be noticed that we examined during the year 244 samples of sausage.

The Act establishing the Dairy and Food Department was passed in

1893 and Section 5 provided that the analysis of all samples was to be made at the Agricultural College and the Professor of Chemistry at that institution should be the State Analyst. Each sample was paid for as analyzed. Act No. 245 of the Public Acts of 1895 provided for the appointment of a State Analyst, who was also the Deputy Commissioner, at a salary of \$1,200, with no provision for assistants. Act No. 154, Public Acts of 1897, made a provision for the appointment of one assistant chemist at a salary of \$1,000.00. This feature has not been changed since, with the exception that the salary was increased in 1905 to \$1,200.00 but no provision was made for the appointment of more than one assistant chemist. This feature has remained the same for the past 16 years, although the work of the laboratory of the Department has steadily increased from year to year.

During the past year we were employing four chemists besides myself. Two of these are provided for by law, viz., one assistant chemist and the drug analyst. The other members of the laboratory force must necessarily be employed as clerks. Should we desire to increase our force with the increase of work that is bound to come to a progressive department, no provision for an increase is made in the present law and the only way that we can employ assistant chemists is to put them on the pay roll as clerks and limit them to the usual salary that this position carries. This should be changed and I believe it urgent that at the next session of the legislature a bill be introduced amending the present law so that we may employ as many chemists, under their proper title, as the work of the laboratory permits, and that a graded salary be fixed for persons so employed. We can then start an inexperienced worker at a small salary and as he becomes more and more valuable to the department, through his increased experience, reward him from time to time, thereby furnishing some inducement for him to devote his utmost energy and study for the benefit of the State.

My associates in the laboratory deserve commendation for their careful and painstaking efforts to keep this division of the department up to a high standard.

Assuring you of our continued interest in all matters pertaining to the enforcement of food and drug laws, I remain,

Yours truly,

F. L. SHANNON,
State Analyst.

SUMMARY OF FOODS ANALYZED.

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Buckwheat groats.....	1	1	0
Buckwheat flour.....	6	6	0
Butter.....	75	49	26
Cakelene.....	1	0	1
Candy.....	6	6	0
Canned fruit.....	5	3	2
Canned meats.....	2	1	1
Canned vegetables.....	20	10	10
Catsup.....	2	2	0
Cheese (Full cream).....	4	4	0
Cherries.....	1	1	0
Cocoa.....	2	2	0
Coffee and coffee compounds.....	7	6	1
Colors.....	5	4	1
Condensed apple cider.....	1	0	1
Condensed milk and cream.....	25	9	16
Corn meal.....	1	0	1
Corn starch.....	2	2	0
Crackers.....	1	0	1
Cream.....	76	75	1
Cream of tartar.....	1	1	0
Currants.....	1	0	1
Egg powder.....	1	1	0
Eggs (frozen).....	2	0	2
Figs.....	1	0	1
Flavoring preparations.....	123	99	24
Flour.....	15	9	6
Gelatine.....	2	2	0
Grape juice.....	1	1	0
Hamburg steak.....	137	69	68
Health coffee.....	1	1	0
Honey.....	4	4	0
Horse radish.....	3	3	0
Ice cream.....	15	8	7
Jellies, jams, etc.....	32	16	16
Lard and lard compound.....	82	40	42
Linseed oil.....	22	13	9
Macaroni.....	1	1	0
Maple sugar.....	8	6	2
Maple syrup.....	13	12	1
Meat.....	20	15	5
Milk.....	466	268	198
Milk cans.....	5	0	5
Mince meat.....	3	3	0
Miscellaneous.....	13	11	2
Molasses.....	1	1	0
Mushrooms.....	2	0	2
Mustard preparations.....	1	0	1
Nutmegs.....	1	1	0
Nuts.....	7	0	7
Oleomargarine.....	55	9	46
Olive oil.....	5	5	0
Olives.....	1	0	1
Oysters.....	15	8	7
Pepper.....	1	1	0
Pickles.....	1	1	0
Pie filling.....	2	2	0
Powdered sugar.....	2	2	0
Preservatives.....	13	10	3
Raisins.....	5	1	4

SUMMARY OF FOODS ANALYZED.—(Concluded.)

Article.	Total.	Not found adulterated misbranded or illegal.	Found adulterated misbranded or illegal.
Red peppers.....	1	0	1
Rice.....	2	1	1
Relish.....	1	1	0
Salad dressing.....	2	1	1
Salmon.....	2	1	1
Salt.....	1	1	0
Sardines.....	6	0	6
Sausage.....	244	101	143
Soft drinks.....	49	43	6
Spinach.....	1	0	1
Sugar.....	2	0	2
Sugar beets.....	10	10	0
Sugar butter, etc.....	2	2	0
Syrups.....	26	10	16
Tomato pulp.....	13	9	4
Turpentine.....	8	2	6
Vinegar.....	21	15	6
White lead.....	1	0	1
Totals.....	1,719	1,002	717

ANALYSES OF SAMPLES.

BUTTER.

Seventy-five samples of butter were analyzed and reported on, 26 of which were found to be adulterated or misbranded. Twelve of these were found to be oleomargarine, sold as butter, while 14 were renovated butter that was not stamped as the law requires.

Renovated, or as it is more often called "Process Butter" is made from old butter that has become rancid and unfit for use in its original form. It is made by melting this grade of butter in large tanks by which means the curd and brine settle to the bottom and are drawn off. The lighter particles raise to the top as a scum or froth and are removed by skimming. The melted butter fat is then removed to other tanks, where air is blown through it while it is still in the molten condition. This removes the bad odors. The fat is then churned with milk (often skimmed milk) after which it is chilled or ripened. The excess of milk and water is then worked out, it is salted and packed and goes out on the market generally labeled "Process Butter." This product, although it may be properly labeled, is often sold for Dairy Butter and sometimes Tub Creamery Butter, as the average individual does not know that the terms "Process Butter" and "Renovated Butter" are synonymous. This is where, in my opinion, the law is faulty and permits of this deception.

Act No. 243, Public Acts of 1903, as amended by Act No. 119, Public Acts of 1909, commonly known as the Renovated Butter Act, provides

in Section 1 and Section 2 for the proper labeling of butter made by the above process as "Renovated Butter," but a provision is attached to Section 2, which provides, "If at any time the laws of the United States provide that butter manufactured as is described in this act, shall be labeled "Process Butter," then and in such case only shall such substitution be permitted and the labeling of said butter as "Process Butter" shall be deemed a compliance with this act." This permits "Renovated Butter" to be labeled and sold for "Process Butter" in our State and thereby permits of a deception. If Renovated Butter were sold for just what it is, under its own name, it could not be palmed off for Dairy Butter or Creamery Butter, for everybody knows what the term "Renovated" means and would know that butter made by Renovating process must be made-over butter. I believe it advisable and recommend that this feature of the law be amended at our next session of the legislature.

No. 27684, Y-129. Sample of "butter" procured from Childs Restaurant, 319 Woodward Ave., Detroit. Sample is oleomargarine. Proper sign not displayed.

No. 27726, A-2. Sample of "butter" procured from the White Front Butter & Egg Co., 168 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27727, A-3. Sample of "butter" procured from the Western Market Butter and Egg Co., 819 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27741, F-84. Sample butter procured from J. Davey, Jr., 363 Grand River Ave., Detroit. Product is renovated butter. Package not stamped.

No. 27791, A-6. Sample of "butter" procured from O. J. Lang, 10 Pasadena Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27809, A-8. Sample of oleomargarine procured from Wm. Lewis, 596 Dix Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27810. Unofficial sample of butter. Sample is renovated butter. Package not stamped.

No. 27831, V-31. Sample of renovated butter procured from John Pluff, Detroit. Sample is oleomargarine, not stamped.

No. 28265, V-149. Sample of "butter" procured from M. A. McGowan, 125 Farmer St., Detroit. Sample is oleomargarine. Proper sign not displayed.

No. 28284, G-941. Sample of butter procured from Hakkala & Gronfors, Calumet. Sample is renovated butter. Package not stamped.

No. 28786, Unofficial. Sample of butter. Product is renovated butter.

No. 28873, G-1029. Sample of "butter" procured from lunch counter of Geo. Roosen, Ontonagon. Sample is oleomargarine. No sign displayed.

No. 29237, G-1067. Sample of butter procured from Chas. Marion, Sault Ste. Marie. Product is renovated butter. Package not stamped.

No. 29239, G-1069. Sample of butter procured from E. C. Reidy, Sault Ste. Marie. Sample is renovated butter. Package not stamped.

No. 29326, F-153. Sample of process butter procured from Elmer Abrahamson, Ludington. Package not stamped.

No. 29521, A-19. Sample of "butter" procured from Leo Rahnhofer, 1556 Mack Ave., Detroit. Sample is oleomargarine artificially colored.

No. 29526, G-1079. Sample of "butter" procured from Fred Nault,

Iron River. Sample is oleomargarine artificially colored. Legal sign not displayed.

No. 29527, G-1080. Sample of butter procured from John Erey & Son, Iron River. Sample is renovated butter. Package not stamped.

No. 29690, G-1085. Sample of butter procured from Pappas Bros., Sault Ste. Marie. Sample is renovated butter. Package not stamped.

No. 29691, G-1086. Sample of "butter" procured from P. E. Gallagher, St. Ignace. Sample is renovated butter. Package not stamped.

No. 29692, G-1087. Sample of butter procured from Oliver Vallier, St. Ignace. Sample is renovated butter. Package not stamped.

No. 29693, G-1088. Sample of butter procured from P. W. Murray, Est., St. Ignace. Sample is renovated butter. Package not stamped.

No. 29862, Y-178. Sample of "butter" procured from Chas. Howell, 621 Jefferson St., Bay City. Sample is oleomargarine.

No. 30161, G-1095. Sample of butter procured from J. H. Roach, Central Hotel, Laurium. Sample is oleomargarine. No sign displayed.

No. 30508, B-106. Sample of butter procured from F. B. Campanoro, Sault Ste. Marie. Product is process butter. Package not stamped.

No. 30510, B-108. Sample of butter procured from Kosto & Pando, Sault Ste. Marie. Sample is process butter. Package not stamped.

CANNED FRUITS.

No. 27635, I-85. Sample of California White Cherries manufactured by the California Fruit Cannery Association and procured from Henderson & Allen, Adrian. Misbranded in that the manufacturer's address does not appear on the label.

No. 27781, I-104. Sample of Sun Kist Bartlett Pears manufactured by J. H. Armsby Co., California, and handled by the Jackson Grocery Co., Jackson. Misbranded in that the manufacturer's address does not appear on the label.

CANNED MEATS.

No. 27893, I-113. Sample of Rex brand roast beef packed by the Cudahy Packing Company, and procured from Harper & Priest, Montgomery. Misbranded in that the packer's address is not stated.

CANNED VEGETABLES.

Twenty samples of canned vegetables were reported on. Six of these were misbranded as they did not comply with the labeling laws.

One sample, No. 20321, a can labeled "Lakesville Canned Tomatoes," was misbranded for the reason that the net weight was not correctly stated: This was the first sample of canned goods that passed through our hands that we found not to comply in this respect. The label stated "Contents weigh two pounds or over." An examination showed that the above statements were false and misleading and instead of weighing two pounds or over as stated, the contents weighed but little over one pound. Three of the samples were found to contain copper sulphate, commonly known as blue vitrol. This was added for the purpose of keeping the vegetables green. The Board of Consulting Scientific Experts of the United States Department of Agriculture, after a careful study, have reported as follows:

"It appears from our investigations that, in certain directions, even such small quantities of copper may have a deleterious action and must be considered injurious to health."

These products were therefore declared adulterated for the reason that they contained a substance which is injurious to health.

No. 27199, D-178. Sample of Our Favorite brand canned peas manufactured by Grafton Johnson, Whiteland, Ind., handled by H. Meisel & Son, Bay City, as jobbers and procured from Eugene St. Pierre, Bay City. Contents of can consists wholly or in part of over-ripe peas. Not "Early June" as labeled. Misbranded.

No. 27807, V-29. Sample of canned peas packed in Belgium and procured from W. H. Kolbe, 173 Jos. Campau Ave., Detroit. Peas are colored with copper sulphate, a substance not permissible in food products.

No. 28050, G-933. Sample of canned peas (Le Soleil Malines Brand) procured from F. P. French, Houghton. Peas are greened with copper sulphate, a substance not permissible in food products.

No. 28094, I-139. Sample of "Emerald Early June Peas" manufactured by the Fame Canning Co., Tipton, Ind., handled by R. A. Bartley, Toledo, Ohio, and procured from Charles E. Maitin, Monroe. Misbranded in that the words "Early June Peas" deceive or mislead the purchaser.

No. 28138, I-151. Sample of Sweepstakes brand canned peas manufactured by the Fame Canning Co., Tipton, Ind., handled by Harnet & Hewitt, Toledo, Ohio, and procured from P. S. Purtell, Ann Arbor. Contents of can consists wholly or in part of hard over-ripe peas. Not "Early June" as labeled. Misbranded.

No. 28894, I-202. Sample of Barton Brand Truffles Brossees sold by James P. Smith & Co., Chicago, and procured from Chas. Wellman, Port Huron. Misbranded in that the manufacturer's name and address is not stated on the label.

No. 28895, I-203. Sample of Robert Brand Mushrooms sold by James P. Smith & Co., Chicago, and procured from Chas. Wellman, Port Huron. Misbranded in that the manufacturer's name and address is not stated on the label.

No. 28896, I-204. Sample of Barton Brand Peas sold by James P. Smith & Co., Chicago, and procured from Chas. Wellman, Port Huron. Misbranded in that the manufacturer's name and address is not stated on the label.

No. 29321. Sample of Lakesville Canned Tomatoes put up by Geo. C. Insley, Lakesville, Md., handled by the Musselman Grocer Co., Traverse City. Misbranded in that the weight is incorrectly stated.

No. 30358, G-1102. Sample of canned peas procured from A. M. Merritt, Delta Hotel, Escanaba. Peas are colored with copper sulphate. Not salable.

CAKELENE.

No. 28807, E-98. Sample of "cakelene" manufactured by Bear Bros., Chicago, Ill., and procured from Geo. E. Bayley, Lansing. Colored with coal tar dye.

COFFEE COMPOUND.

No. 27668, F-78. Sample of Uneeda Coffee manufactured by the B. D. Roseman Coffee Co., Cleveland, Ohio, and procured from Peter Elengoff, Detroit. A mixture of coffee, chicory and wheat. Not properly labeled as a coffee compound.

COLORS.

No. 28077, I-134. Sample of Liquid Egg Color procured from D. E. Boak, Hillsdale. Sample is a coal tar color and its use in baked goods makes them appear better or of greater value than they really are.

CONDENSED APPLE CIDER.

No. 28321, I-162. Sample of Pure Condensed Apple Cider (Clifton's) handled by the Overmyer Co., Toledo, Ohio, and procured from J. R. Knight, Milan. Sample contains boric acid or salts thereof. Not permissible in food products. Adulterated and misbranded.

CONDENSED MILK.

Twenty-five samples of condensed milk were reported on. The most of these were submitted for incorrect labeling. The condensed milk law requires that the formula for extending the milk should be worded in the following terms: "By adding parts of water to one part of the contents of this can a resulting milk product will be obtained which will not be below the legal standard for whole milk." On sixteen of these cans the formula was not in conformity with the statute and they were therefore declared misbranded.

No. 28893, I-197. Sample of Every Day Brand evaporated milk manufactured by the John Wildi Evaporated Milk Co., Columbus, Ohio, and handled by the National Grocer Co., Port Huron. Misbranded in that the formula for diluting is not given on the label.

No. 29258, B-3. Sample of condensed milk manufactured by Reid, Murdock & Co., Chicago. Not properly labeled.

No. 29985, D-202. Sample of Dundee Condensed Milk manufactured by the Oatman Condensed Milk Co., Dundee, Ill. Direction for diluting milk not in conformity with statute.

No. 30160, G-1094. Sample of evaporated milk manufactured by the Sheboygan Evaporated Milk Co., Sheboygan, Wis. Misbranded in that the directions for diluting are not worded according to the statute.

No. 30167, V-57. Sample of evaporated milk manufactured by the Ohio Dairy Co., Toledo, Ohio. Misbranded in that the directions for diluting are not worded according to the statute.

No. 30168, V-58. Sample of sterilized milk procured from J. L. Hudson Co., Detroit. Misbranded in that the directions for diluting are not worded according to the statute.

No. 30173, V-63. Sample of evaporated milk manufactured by the Borden Condensed Milk Co., New York. Misbranded in that the formula for extending milk is not worded according to the statute.

No. 30174, V-64. Sample of evaporated milk manufactured by the Helvetia Condensed Milk Co., Highland, Ill. Misbranded in that the directions for diluting are not worded according to the statute.

No. 30178, V-68. Sample of skimmed milk manufactured by the Hires Condensed Milk Co., Philadelphia, Pa. Misbranded in that the directions for dilution are not worded according to the statute.

No. 30180, V-70. Sample of condensed milk manufactured by the Hires Condensed Milk Co., Philadelphia, Pa. Misbranded in that directions for diluting are not worded according to the statute.

No. 30182, V-72. Sample of condensed milk manufactured by the Ohio Dairy Co., Toledo, Ohio. Misbranded in that the label states the net weight 14 ounces, whereas the net weight was found to be 13.1 ozs.

No. 30204, G-1096. Sample of evaporated milk distributed by Gowan, Lenning, Brown Co., Duluth, Minn. No directions for diluting. Misbranded.

No. 30206, G-1098. Sample of evaporated milk manufactured by the Borden Condensed Milk Co., St. Charles, Ill. Directions for diluting not worded according to statute. Misbranded.

No. 30448, G-1103. Sample of evaporated milk manufactured by the Oatman Condensed Milk Co., Dundee, Ill. Misbranded for the reason that directions for diluting are not in conformity with the statute.

No. 30454, G-1109. Sample of evaporated milk manufactured by the Franklin MacVeigh Co., Chicago, Ill. No directions given for diluting. Misbranded.

No. 30455, G-1110. Sample of evaporated milk manufactured by the Footville Condensed Milk Co., Footville, Wis. Misbranded in that directions for diluting are not in conformity with the statute.

CORN MEAL.

No. 30198, P-1274. Sample of corn meal put up by the Colby Milling Co., Dowagiac. Misbranded for the reason that the weight of the contents of the sack does not weigh 6 lbs. as stated on the sack.

CRACKERS.

No. 28291. Unofficial. Sample of crackers. Stale and unfit for food.

CREAM.

No. 30089. Unofficial sample of cream. Butter fat 11%. Below standard.

CURRENTS.

No. 30190, P.1266. Sample of package currants put up by W. M. Hoyt & Co., Chicago, Ill. Net weight stated 15 ozs. Net weight found 13 $\frac{3}{4}$ ozs. Misbranded.

EGGS. (FROZEN.)

Under the heading of "Eggs" in the appended report, you will find a report on two samples of frozen eggs. These were the only samples of this kind that we received during the year and both were condemned.

One of these samples was secured by an inspector in Detroit from the Detroit Egg Biscuit Company, who were using this class of eggs in the manufacture of their products. The use of frozen eggs in a food product is not to be condemned, as one might think, merely because they are frozen. It has been shown by the Federal Government that under

proper conditions a very good article of food can be prepared with good frozen eggs, but the tendency among certain manufacturers is to break and freeze those eggs which have become so bad that it would be impossible to keep them otherwise. Such eggs when broken into a can and then frozen solid do not appear or smell bad, but when they are thawed out the odor of rotten eggs is at once apparent. The sample referred to above while still in a frozen condition and from all physical tests, seemed O. K., but a bacteriological examination showed it to contain about 24,000,000 bacteria per cubic centimeter, 10,000,000 of which were organisms of the B. Coli type, thereby indicating that the eggs were filthy and decomposed and unfit for human consumption.

The other sample manufactured outside of the State but obtained from a produce dealer in Detroit, was similar in composition to the others and while frozen appeared to be O. K. A bacteriological examination of the product showed it to contain 118,000,000 bacteria per cubic centimeters, of which 17,000,000 were of the B. Coli type. These eggs were declared adulterated for the reason that they consisted wholly or in part of decomposed, putrid and rotten animal substance.

No. 29062, U-57. Sample of frozen "eggs" put up by F. C. Schnurstein & Co., 802 Fisher Ave., Detroit, and procured from Detroit Egg Biscuit Co., 2817 East Grand Boulevard, Detroit. Sample consists wholly or in part of a decomposed, putrid, infected, tainted or rotten animal substance.

No. 29361, U-60. Sample of frozen eggs manufactured by Feilchenfeld & Aaron, Chicago, and procured from Chris Schmidt Co., Detroit. Eggs are adulterated for the reason that they consist wholly or in part of decomposed, putrid, infected, tainted or rotten animal substance.

FIGS.

No. 28461, E-75. Sample of "Turkey Figs" handled by the Jackson Grocery Co., Jackson, and procured from E. D. Wallace, South Lyon. Manufacturer's name and address not on label. Misbranded.

FLAVORING PREPARATIONS

One hundred and twenty-three samples of flavoring preparations were examined during the year. This included forty-seven samples of Vanilla Extract, twenty-five samples of Lemon Extract, twelve samples of Almond Extract, nine samples of Orange Extract, eight samples of Peppermint Extract, four samples of Strawberry Extract, two samples of Rose Extract, two samples of Wintergreen Extract and one sample of Clove, Cinnamon, Pineapple and Violet Extracts. Twenty-four of this number were found to be adulterated or misbranded, a list of which appears in the appended report.

Act No. 64, Public Acts of 1913, makes the United States standards our standards, therefore to comply with the law all flavoring preparations must be made to conform with these standards. Those samples that were classed as adulterated were so classed for the reason that they did not come up to the standard established by the United States Department of Agriculture. Those that are classed as misbranded are so classed for the reason that they did not conform to our labeling laws.

The standards are as follows:

A flavoring extract is a solution in ethyl alcohol of proper strength of the sapid and odorous principles derived from an aromatic plant, or parts of the plant, with or without its coloring matter, and conforms in name to the plant used in its preparation.

Almond extract is the flavoring extract prepared from oil of bitter almonds, free from hydrocyanic acid, and contains not less than one (1) per cent by volume of oil of bitter almonds.

Anise extract is the flavoring extract prepared from oil of anise, and contains not less than three (3) per cent by volume of oil of anise.

Celery seed extract is the flavoring extract prepared from celery seed or the oil of celery seed, or both, and contains not less than three-tenths (0.3) per cent by volume of oil of celery seed.

Cassia extract is the flavoring extract prepared from oil of cassia and contains not less than two (2) per cent by volume of oil of cassia.

Cinnamon extract is the flavoring extract prepared from oil of cinnamon and contains not less than two (2) per cent by volume of oil of cinnamon.

Clove extract is the flavoring extract prepared from oil of cloves and contains not less than two (2) per cent by volume of oil of cloves.

Ginger extract is the flavoring extract prepared from ginger and contains in each one hundred (100) cubic centimeters, the alcohol-soluble matters from not less than twenty (20) grams of ginger.

Lemon extract is the flavoring extract prepared from oil of lemon, or from lemon peel, or both, and contains not less than five (5) per cent by volume of oil of lemon.

Terpeneless extract of lemon is the flavoring extract prepared by shaking oil of lemon with dilute alcohol, or by dissolving terpeneless oil of lemon in dilute alcohol, and contains not less than two-tenths (0.2) per cent by weight of citral derived from oil of lemon.

Nutmeg extract is the flavoring extract prepared from oil of nutmeg, and contains not less than two (2) per cent by volume of oil of nutmeg.

Orange extract is the flavoring extract prepared from oil of orange, or from orange peel, or both, and contains not less than five (5) per cent by volume of oil of orange.

Terpeneless extract of orange is the flavoring extract prepared by shaking oil of orange with dilute alcohol, or by dissolving terpeneless oil of orange in dilute alcohol, and corresponds in flavoring strength to orange extract.

Peppermint extract is the flavoring extract prepared from oil of peppermint, or from peppermint, or both, and contains not less than three (3) per cent by volume of oil of peppermint.

Rose extract is the flavoring extract prepared from otto of roses, with or without red rose petals, and contains not less than four-tenths (0.4) per cent by volume of otto of roses.

Spearmint extract is the flavoring extract prepared from oil of spearmint, or from spearmint, or both, and contains not less than three (3) per cent by volume of oil of spearmint.

Thyme extract is the flavoring extract prepared from oil of thyme, or from thyme, or both, and contains not less than two-tenths (0.2) per cent by volume of oil of thyme.

Tonka extract is the flavoring extract prepared from tonka bean, with

or without sugar or glycerine, and contains not less than one-tenth (0.1) per cent by weight of coumarin extracted from the tonka bean, together with a corresponding proportion of the other soluble matters thereof.

Vanilla extract is the flavoring extract prepared from vanilla bean, with or without sugar or glycerin, and contains in one hundred (100) cubic centimeters the soluble matters from not less than ten (10) grams of the vanilla bean.

Wintergreen extract is the flavoring extract prepared from oil of wintergreen, and contains not less than three (3) per cent by volume of oil of wintergreen.

No. 27633, I-83. Sample of Vanilla manufactured by L. J. Baldwin & Son, Fort Wayne, Ind., and procured from F. A. Lehr, Adrian, An imitation vanilla extract not properly labeled.

No. 27673, I-89. Sample of imitation vanilla extract manufactured by the Moore Co., Temperance. Carton labeled incorrectly.

No. 27733, I-95. Sample of "Vanilla Substitute" manufactured by C. H. Stuart & Co., Newark, N. Y., handled by Harvey Rhodebaugh, Quincy, and procured from the Amsden Grocery Co., Quincy. Imitation vanilla misbranded.

No. 27796, U-26. Sample of Strawberry Flavor manufactured by Greenberg & Newman, 215 Napoleon St., Detroit. An imitation strawberry flavor not properly labeled.

No. 27855, I-110. Sample of Coumarin and Vanilla manufactured by the Acme Extract Co., Jackson, and procured from A. R. Klose & Son, Sherwood. Not properly labeled as an imitation vanilla.

No. 27862, U-28. Sample of Violet Flavor manufactured by S. F. Saloom Co., 21 Washington St., New York, and procured from Michael Bros., Detroit. Sugar syrup artificially colored. Misbranded.

No. 28296, V-38. Sample of "Special Brand Pure Vanilla Extract" manufactured by Schorndorfer & Eberhard Co., Cleveland, Ohio, and procured from Fred Schandt, Detroit. Not a pure vanilla extract.

No. 28408, U-52. Sample of "Eclipse Almond Extract" manufactured by the Miller & Eberhard Co., Cleveland, Ohio, and procured from Frank Forster, 1747 Michigan Ave., Detroit. Not a true almond extract. Deficient in oil of bitter almonds.

No. 28415, G-998. Sample of lemon flavor manufactured by the Rolander Remedy Co., St. Paul, Minn., and procured from Keweenaw Bay Store Co., Keweenaw Bay. Does not comply with standard for lemon extract. No lemon oil present.

No. 28474, E-76. Sample of wintergreen extract handled by Lee & Cady, Detroit, and procured from W. J. Warby, South Lyon. Not a true wintergreen extract. Low in oil of wintergreen.

No. 28482, E-84. Sample of cinnamon extract manufactured by the Seely Manufacturing Co., Detroit, and procured from H. J. Sweet, Howell. Not a true cinnamon extract. Low in oil of cinnamon.

No. 28483, E-85. Sample of Lemon Flavor manufactured by the Moore Co., Temperance, and procured from H. J. Sweet, Howell. Not a true extract of lemon.

No. 28502, I-172. Sample of Laurel Brand Vanillin Flavor manufactured by the Ludlow-Robson Co., Toledo, and procured from Wright & Van Dusen, Jasper. Misbranded.

No. 28515, I-175. Sample of "Special Flavoring Vanilla" manufactured by Dr. J. A. Drake, Fort Wayne, Ind., and procured from H. D. Peggs, Monroe. Misbranded.

No. 28516, I-176. Sample of "Special Flavoring Vanilla" manufactured by Dr. J. A. Drake, Fort Wayne, Ind., and procured from H. D. Peggs, Monroe. Misbranded.

No. 28518, I-178. Sample of Lemon Extract manufactured by Dr. J. A. Drake, Fort Wayne, Ind., and procured from H. D. Pegg, Morenci. Not a true extract of lemon.

No. 28764, I-193. Sample of "Vanilla, Coumarin, Vanillin" manufactured and sold by G. Holland, Port Huron, and procured from R. Snelling, Port Huron. Misbranded.

No. 28792, E-88. Sample of "Extract of Lemon for Bakers" put up by Northrup, Robertson & Carrier Co., Lansing, and procured from Geo. E. Bayley, Lansing. Not a true extract of lemon.

No. 28797, E-93. Sample of Monogram lemon oil manufactured by Letts & Church Co., New York. Sample is not a true lemon oil.

No. 28861, V-43. Sample of "Special Brand Pure Lemon Extract" manufactured by Schorndorfer & Eberhard Co., Cleveland, Ohio, and procured from Fred Schandt, Detroit. Not true lemon extract.

No. 28924, E-99. Sample of Lemon Flavor manufactured by the Moore Co., Temperance, and procured from H. J. Sweet, Howell. Not a true lemon extract.

No. 29342, F-149. Sample of Imperial Vanilla & Vanillin manufactured by the Imperial Vanilla Co., Chicago, and procured from H. G. Price, Ludington. Product is imitation vanilla not properly labeled as such.

No. 30126, V-52. Sample of Sweet Violet Brand Vanilla handled by the Dueweke Grocery Co., Detroit. Net contents not stated. Misbranded.

No. 30452, G-1107. Sample of Eddy Special Lemon Extract manufactured by the Eddy & Eddy Mfg. Co., St. Louis. Misbranded in that the bottle does not contain 7 drams as stated.

FLOUR.

No. 29625, F-159. Sample of flour manufactured by the Voigt Milling Co., Grand Rapids. Sack does not contain $24\frac{1}{2}$ lbs. as stated on the label.

No. 29626, F-160. Sample of flour manufactured by the Voigt Milling Co., Grand Rapids. Sack does not contain $24\frac{1}{2}$ lbs. as stated on the label.

No. 29770, B-26. Sample of flour manufactured by the Voigt Milling Co., Grand Rapids. Sack does not contain $24\frac{1}{2}$ lbs. as stated on the label.

No. 29875, F-162. Sample of flour manufactured by the Muskegon Milling Co., Muskegon. Weight not stamped on sack.

No. 30197, P-1273. Sample of Hoyt's Best Flour manufactured by the W. M. Hoyt & Co., Chicago, Ill., Weight not stated on the package. Misbranded.

No. 30215, B-70. Sample of flour manufactured by the Gladwin Elevator Co., Gladwin. Paper sack contains an amount of refuse taken from the flour. Unfit for food.

HAMBURG STEAK.

One hundred and thirty-seven samples of Hamburg Steak were reported on. Sixty-eight were classified as adulterated. Sixty-seven or nearly 50% of these were condemned for the reason that they contained sulphurous acids or salts thereof. One was condemned for being decomposed and unfit for use.

Perhaps it might not be amiss here to explain what is meant by the phrase, added sulphurous acid or salts thereof, as it often appears in the laboratory report. It has been found that, when sulphur dioxide, a gas which is formed when sulphur is burned, is brought in contact with meat a peculiar reaction takes place. The meat takes on a bright red color, which gives it the appearance of freshly cut meat. It further prevents putrefaction or spoiling, thereby acting as a chemical preservative. It is not common nor practical to add sulphur dioxide to meat in the form of a gas; consequently the meat man must use it in some more stable and practical form. When sulphur dioxide is passed into water it is dissolved and forms sulphurous acid. If this in turn is then combined with sodium we get a salt of sulphurous acid such as sodium sulphite. This then is the more stable and practical form for use and is the form generally found in meat markets.

This chemical is furnished butchers in various ways and often when sulphurous acids or salts thereof are found in chopped meats an investigation will show that the butcher, although he may know that the addition of sulphite is illegal, he has been led to believe that the particular material he is using is permissible. This is accounted for by the fact that he has purchased an article for use in meat markets which is for all intents and purposes a perfectly legitimate article. (See Preservatives.)

Forty-eight prosecutions were instituted during the year for the use of sulphites in the manufacture of Hamburg Steak. Fines were collected in many cases. In one case where the defendant had a bad record behind him in this respect, a sentence of 30 days in jail was imposed by the presiding Judge.

No. 27474, G-902. Sample of Hamburg Steak manufactured and sold by J. P. Peterman, Kearsarge, Houghton county. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27476, G-904. Sample of Hamburg Steak manufactured and sold by Morgan & Grierson, Centennial. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27499, G-906. Sample of Hamburg Steak manufactured and sold by F. H. Schumacher, Calumet. Product contains added sulphurous acids or salts thereof, not permissible in food products.

No. 27500, G-907. Sample of Hamburg Steak manufactured and sold by Mike Quello, Calumet. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27501, G-908. Sample of Hamburg Steak manufactured and sold by Tamarack Co-operative Store, Calumet. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27503, G-910. Sample of Hamburg Steak manufactured and sold by Gourd Bros., Laurium. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27519, F-770. Sample of Hamburg Steak manufactured and sold by Leo. H. Reischke, Benton Harbor. Product contains added sulphurous acids or salts thereof, not permissible in food products.

No. 27602, F-65. Sample of Hamburg Steak procured from Adolph Bennert, 1889 Michigan Ave., Detroit. Added sulphites present. Not permissible in food products.

No. 27603, F-66. Sample of Hamburg Steak procured from F. X. Sarbinowski, 1774 Michigan Ave., Detroit. Sample contains added sulphurous acids or salts thereof, not permissible in food products.

No. 27605, F-68. Sample of Hamburg Steak procured from Stanley Bernosiewicz, 1389 Michigan Ave., Detroit. Product contains added sulphurous acid or salt thereof, not permissible in food products.

No. 27606, F-69. Sample of Hamburg Steak procured from S. Ratner, 258 Hastings St., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27610, V-19. Sample of Hamburg Steak manufactured and sold by M. Weise, Mt. Elliott Ave., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27611, Y-123. Sample of Hamburg Steak procured from G. Auberlin, 1072 Forest Ave., East Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27613, F-70. Sample of Hamburg Steak procured from D. F. Christie, 3027 Woodward Ave., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27614, F-71. Sample of Hamburg Steak procured from Max Kohn, 2952 Woodward Ave., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27615, F-72. Sample of Hamburg Steak procured from B. Marx, Broadway Market, Detroit. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27617, F-74. Sample of Hamburg Steak procured from D. M. Marx, Broadway Market, Detroit. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27618, F-75. Sample of Hamburg Steak procured from W. S. Kreger, Broadway Market, Detroit. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27629, U-12. Sample of Hamburg Steak procured from John Coates, 243 Grand River Ave., Detroit. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27641, V-20. Sample of Hamburg Steak procured from A. Marx, 25 Cadillac Square, Detroit. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27678, X-373. Sample of Hamburg Steak procured from Geo. H. Tooley, Owosso. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27681, I-90. Sample of Hamburg Steak manufactured and sold by Woodward & Company, Milan. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27718, I-92. Sample of Hamburg Steak manufactured and sold by H. A. Straw, Bronson. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27719, I-93. Sample of Hamburg Steak manufactured and sold

by H. A. Straw, Bronson. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27720, E-49. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing and procured from Chas. Hensley, Lansing. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27721, E-50. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27730, E-51. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27761, N-27. Sample of Hamburg Steak manufactured and sold by Perry T. Banghart, Alma. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27765, P-790. Sample of Hamburg Steak procured from George Williams, Battle Creek. Sample was in an advanced stage of decomposition, tainted and absolutely unfit for use.

No. 27769, E-53. Sample of Hamburg Steak procured from Geo. E. Decke, Lansing. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27776, I-105. Sample of Hamburg Steak manufactured and sold by Weber & Bosson, Jackson. Sample contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27777, I-106. Sample of Hamburg Steak manufactured by Weber & Bosson and procured from A. Savoy, 232 E Main St., Jackson. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27779, I-108. Sample of Hamburg Steak manufactured and sold by G. O. Mollenkopf, 513 E. Main St., Jackson. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27795, U-25. Sample of Hamburg Steak manufactured by Joseph Tansky, 388 Hastings St., Detroit. Product contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27798, V-27. Sample of Hamburg Steak manufactured and sold by A. Schmidt, 939 Mack Ave., Detroit. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27800, Y-133. Sample of Hamburg Steak manufactured and sold by P. Sliter, 208 E. Main St., Kalamazoo. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 27868, G-924. Sample of Hamburg Steak manufactured and sold by the Crystal Falls Cooperative Society, Crystal Falls. Sample contains sulphurous acid or salts thereof, not permissible in food products.

No. 27903, F-94. Sample of Hamburg Steak manufactured by the Marx Market Co., Detroit, and procured from Tollis Bros., Detroit. Contains added sulphurous acid or salts thereof, not permissible in food products.

No. 28162, F-110. Sample of Hamburg Steak manufactured by Chas. Schoenberg, Muskegon and procured from T. Collins, Muskegon. Product contains added sulphurous acid or salts thereof.

No. 28186, E-70. Sample of Hamburg Steak procured from J. F. Knapp, Mesick. Product contains added sulphurous acid or salts thereof.

No. 28229, I-158. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing. Product contains added sulphurous acid or salts thereof.

No. 28256, V-36. Sample of Hamburg Steak procured from John Eichhorn, 1260 Kercheval Ave., Detroit. Sample contains a small amount of sulphurous acid or salts thereof.

No. 28300, P-870. Sample of Hamburg Steak manufactured by Talmage & Bauer, Albion. Product contains a small amount of added sulphurous acid or salts thereof.

No. 28311, Y-150. Sample of Hamburg Steak manufactured and sold by Dehn Bros., 101 W. Midland St., Bay City. Product contains added sulphurous acid or salts thereof.

No. 28324, Unofficial. Sample of Hamburg Steak. Product contains added sulphurous acid or salts thereof.

No. 28325, Unofficial. Sample of Hamburg Steak. Product contains added sulphurous acid or salts thereof.

No. 28356, Y-151. Sample of Hamburg Steak manufactured by Frank Preuss, Lansing. Product contains added sulphurous acid or salts thereof.

No. 28393, G-997. Sample of Hamburg Steak manufactured by Henry Opal, Hubbell. Product contains added sulphurous acid or salts thereof.

No. 28414, Unofficial. Sample of Hamburg Steak. Product contains added sulphurous acid or salts thereof.

No. 28434, P-884. Sample of Hamburg Steak manufactured by Talmage & Bauer, Albion. Product contains added sulphurous acid or salts thereof.

No. 28874, G-1030. Sample of Hamburg Steak manufactured and sold by Joseph Burton, Ontonagon. Product contains added sulphurous acid, or salts thereof.

No. 28883, G-1038. Sample of Hamburg Steak manufactured and sold by L. Hennes & Co., Lake Linden. Product contains added sulphurous acid or salts thereof.

No. 28970, G-1057. Sample of Hamburg Steak manufactured and sold by Frank Peterson Co., Manistique. Product contains added sulphurous acid or salts thereof.

No. 29111, Y-169. Sample of Hamburg Steak manufactured and sold by M. W. Kunderling, 1522 S. Michigan, Saginaw. Product contains added sulphurous acid or salts thereof.

No. 29984, D-205. Sample of Hamburg Steak manufactured and sold by the Grand Rapids Sanitary Meat Market, 436 Bridge St., Grand Rapids. Product contains added sulphurous acid or salts thereof.

No. 29986, D-206. Sample of Hamburg Steak manufactured and sold by the Grand Rapids Sanitary Meat Market, Grand Rapids. Product contains added sulphurous acid or salts thereof.

No. 30002, D-208. Sample of Hamburg Steak manufactured and sold by J. Sanford, 1154 Division, Grand Rapids. Product contains added sulphurous acid or salts thereof.

No. 30043, P-1223. Sample of Hamburg Steak manufactured and sold by Wilbur J. Warner, Paw Paw. Product contains added sulphurous acid or salts thereof.

No. 28484, Y-158. Sample of Hamburg Steak manufactured by John Rinz, 600 Columbus Ave., Bay City. Product contains added sulphurous acid or salts thereof.

No. 28490, F-119. Sample of Hamburg Steak manufactured by Ed. Kiehling, Manistee. Product contains added sulphurous acid or salts thereof.

No. 28491, F-120. Sample of Hamburg Steak procured from A. Schleif, Manistee. Product contains sulphurous acid or salts thereof.

No. 28494, F-123. Sample of Hamburg Steak manufactured by A. Janicki, Manistee. Product contains added sulphurous acid or salts thereof.

No. 28538, Unofficial. Sample of Hamburg Steak. Product contains a very small amount of added sulphurous acid or salts thereof.

No. 28549, P-904. Sample of Hamburg Steak manufactured and sold by the Chicago Market, Lansing. Product contains added sulphurous acid or salts thereof.

No. 28588, F-124. Sample of Hamburg Steak procured from Joseph Waal, Manistee. Product contains added sulphurous acid or salts thereof.

No. 28784, F-129. Sample of Hamburg Steak procured from Joseph Vraný, Traverse City. Product contains small amount of added sulphurous acid or salts thereof.

No. 28801, F-131. Sample of Hamburg Steak procured from Van Stanek, Traverse City. Product contains added sulphurous acid or salts thereof. •

No. 28802, F-132. Sample of Hamburg Steak procured from Glen Lutz, Traverse City. Product contains small amount of added sulphurous acid or salts thereof.

ICE CREAM.

No. 27652, Y-127. Sample of ice cream manufactured by the LaBelle Ice Cream Company, Saugatuck. Butter fat 6.8%. Below standard.

No. 27653, Y-128. Sample of ice cream manufactured by A. B. Taylor, Saugatuck. Butter fat 6.0%. Below standard.

No. 27802, Y-135. Sample of ice cream manufactured by the Piper Ice Cream Company, Kalamazoo, and procured from Van Ostrand-Mattison Drug Co., Kalamazoo. Butter fat 8.0%. Below standard.

No. 27814, S-21. Sample of ice cream manufactured by Geo. Chase, Hillsdale, and procured from Frank Shiley, Hillsdale. Butter fat 8.5%. Below standard.

No. 27815, S-22. Sample of ice cream procured from Geo. Chase, Hillsdale. Butter fat 9.0%. Below standard.

No. 27967, Y-141. Sample of ice cream manufactured by the Piper Ice Cream Co., Kalamazoo. Butter fat 8.2%. Below standard.

No. 30391, Y-200. Sample of ice cream manufactured by the Fountain City Ice Cream Co., Morenci. Butter fat 8.2%. Below the legal standard in butter fat.

JELLIES, JAMS, ETC.

Thirty-two samples of Jams and Jellies were examined. Sixteen of these were found not to comply with the statute.

The law requires that all jellies or fruit butters, if they consist "wholly or in part of glucose, dextrine, starch or other substances," shall be labeled "Imitation Fruit Jelly or Butter." It further provides that any of these preparations that are artificially colored cannot be sold under any consideration. With the present high prices of food

stuffs, the temptation is great to make a cheap product and masquerade it as a high class article.

No. 27754, I-98. Sample of pineapple preserve manufactured by Hay Manufacturing Co., Detroit, handled by the Jackson Grocery Co. as jobbers and procured from B. M. Mills, Jackson. Misbranded. Not pure pineapple preserves.

No. 27864, U-30. Sample of raspberry jam manufactured by the E. B. Gallagher Co., Detroit. Imitation fruit jelly artificially colored. Not salable.

No. 27865, U-31. Sample of bakers' jelly No. 1 manufactured by E. B. Gallagher Co., Detroit. Imitation fruit jelly, artificially colored. Not salable.

No. 27866, U-32. Sample of bakers' jelly No. 2 manufactured by E. B. Gallagher Co., Detroit. Imitation fruit jelly, artificially colored. Not salable.

No. 27881, U-34. Sample of raspberry preserve compound manufactured by the Logan Johnson Co., Boston, Mass., and procured from Alex B. Campbell, Detroit. Imitation preserves artificially colored. Not salable.

No. 27882, U-35. Sample of apple jelly manufactured by Williams Bros., Detroit, and procured from Alex B. Campbell, Detroit. Misbranded.

No. 27833, U-36. Sample of National brand apple jelly manufactured by the American Preserve Co., Philadelphia, and procured from Alex B. Campbell, Detroit. Product is an imitation jelly artificially colored. Not salable.

No. 27912, I-120. Sample of Bakers' jelly No. 1 manufactured by E. B. Gallagher & Co., Detroit, and procured from Trank Bros., Jackson. Product is imitation jelly artificially colored. Not salable.

No. 27969, U-42. Sample of Royal Jelly manufactured by Ad. Seidel & Sons, Chicago, and procured from Mrs. T. Earle, Adrian. An imitation jelly artificially colored. Not salable.

No. 27989, I-122. Sample of Golden Glory corn syrup and apple jelly handled by the Bruce & West Manufacturing Co., Cleveland, and procured from J. H. Eber & Co., Monroe. An imitation jelly artificially colored. Not salable.

No. 28078, I-135. Sample of Bakers' Delight apple and raspberry jelly manufactured by Chapman & Smith Co., Chicago, and procured from D. E. Boag, Hillsdale. Product is an imitation jelly not properly labeled.

No. 28116, I-147. Sample of Bakers' jelly No. 1 manufactured by E. B. Gallagher & Co., Detroit, and procured from Sam Hensel, Ann Arbor. Product is an imitation jelly not properly labeled.

No. 28119, V-33. Sample of raspberry and apple preserves manufactured by Oelerich & Berry, Chicago, and procured from F. S. Davis & Co., Detroit. Not properly labeled as an imitation jelly. Manufacturer's name and address not stated.

No. 28121, V-35. Sample of imitation apple and grape jelly manufactured by Oelerich & Berry, Chicago, and procured from F. S. Davis & Co., Detroit. Misbranded.

No. 28790, E-86. Sample of Banner Brand imitation fruit jelly manufactured by the Lamon-Gohl Syrup Co., Chicago, Ill., and sold by Bear

Bros., Chicago. Product is imitation fruit jelly, artificially colored. Not salable.

No. 30003, D-209. Sample of Crown jelly manufactured by Ad Seidel & Sons, Chicago, and procured from the Citizens bakery, 922 Division Ave., Grand Rapids. Jelly is artificially colored. Not salable.

LARD AND LARD COMPOUND.

Eighty-two samples of lard and lard compound were examined and reported on. Forty-two were adulterated or misbranded. Fifteen of these were sold or offered for sale as pure lard when they were not pure lard but were a lard compound. Twenty-seven were sold as lard compound, but were misbranded for the reason that the package containing the product was not stamped in accordance with the law.

Lard is the rendered fresh fat from hogs in good health at the time of slaughter, is clean, free from rancidity and contains necessarily incorporated in the process of rendering, not more than one per cent of substances other than fatty acids and fat.

Lard compound is a mixture of the above material and some animal and vegetable fat or oil. The materials most commonly used for this purpose are cottonseed oil and beef fat used together or separate. In fact, it is quite common among manufacturers to mix a small amount (usually about 5%) of beef fat with lard and label it "Pure Lard with Beef Stearin added." This method is all right providing the consumer buys the original package. However, when the original package is a large tub or tierce and the retailer sells out of this, the consumer should be informed that he is not buying pure lard. This can be readily accomplished by the dealer if he will stamp the package in which he deals out the mixture "Lard Compound."

Cottonseed oil and beef fat are both cheaper than lard, consequently when competition is a little too keen, the temptation to sell "Lard Compound" for pure lard is sometimes not overcome, as is shown below.

No. 27480, P-763. Sample of "lard" manufactured and sold by Bert Porter, Charlotte. Sample is lard compound.

No. 27481, P-764. Sample of "lard" manufactured and sold by Bert Porter, Charlotte. Sample is lard compound.

No. 27536, E-46. Sample of "lard" procured from W. J. Becker, Flint. Not a pure lard.

No. 27553, I-73. Sample of lard compound procured from Buehler Bros., Jackson. Sample is lard compound not properly stamped.

No. 27556, I-71. Sample of lard compound procured from Aldrich & Son, Tecumseh. Sample is lard compound not stamped.

No. 27593, I-76. Sample of lard compound procured from Charles King & Co., Ypsilanti. Sample is lard compound, not stamped.

No. 27604, F-67. Sample of lard compound procured from Bert Hunt, 1677 Michigan Ave., Detroit. Sample is lard compound not stamped.

No. 27620, E-47. Sample of lard compound procured from W. H. McRae, Perrinton. Sample is lard compound, not stamped.

No. 27621, E-48. Sample of lard compound procured from William Horton, Riverdale. Sample is lard compound not stamped.

No. 27628, I-82. Sample of lard compound procured from Ben T. Peavy & Co., Adrian. Sample is lard compound, not stamped.

No. 27665, F-77. Sample of "lard" procured from J. Leff, Grand Rapids. Sample is lard compound, not stamped.

No. 27736, F-83. Sample of "lard" procured from Lamkin Bros., 125 Michigan Ave., Detroit. Sample is lard compound, package not stamped.

No. 27768, U-18. Sample of lard procured from Konstan Seropulos, 420 Michigan Ave., Detroit. Product is lard compound not stamped.

No. 27770, F-85. Sample of lard procured from Jacob Dunn & Co., 1015 Grand River Ave., Detroit. Product is lard compound not stamped.

No. 27789, U-23. Sample of lard procured from the Detroit Provision Co., Detroit. Product is lard compound not stamped.

No. 27873. Unofficial sample of lard. Product is lard compound not stamped.

No. 27923, F-97. Sample of lard procured from Dirk Mulder, Muskegon. Product is lard compound not stamped.

No. 27961, F-103. Sample of lard manufactured by J. S. Anderson and procured from E. Heathius, Muskegon. Sample is lard compound.

No. 28021, E-63. Sample of lard compound procured from Godfrey Gundrum, LeRoy. Package not stamped or marked.

No. 28023, E-65. Sample of lard compound procured from D. B. Ketchum, LeRoy. Package not stamped or marked.

No. 28024, E-66. Sample of lard compound procured from James Campbell, LeRoy. Package not stamped or marked.

No. 28171, E-69. Sample of lard. Product contains a small amount of beef fat.

No. 28562, P-912. Sample of lard compound. Product is lard compound. Package not stamped.

No. 28568, P-919. Sample of lard compound. Not properly stamped.

No. 28570, P-921. Sample of lard compound. Package stamped but letters illegible.

No. 28577, P-927. Sample of lard compound. Package stamped but letters illegible.

No. 28582, P-932. Sample of lard compound. Package not stamped.

No. 28584, P-934. Sample of lard compound. Package not stamped.

No. 28585, P-935. Sample of lard compound. Package not stamped.

No. 28596, P-939. Sample of lard compound. Package not stamped.

No. 28597, P-940. Sample of lard compound. Package not stamped.

No. 28971, U-56. Sample of lard compound procured from W. S. Carroll, 225 Brush St., Detroit. Package not stamped.

No. 29425, F-152. Sample of lard compound sold by Oscar Balin, Ludington. Package not stamped.

No. 29427, F-154. Sample of lard compound sold by Elmer Abramhson, Ludington. Package not stamped.

No. 29235, F-142. Sample of lard procured from Louis Hoelzoe, Grand Rapids. Product is lard compound. Package not stamped.

No. 29425, F-152. Sample of lard compound procured from Oscar Balin, Ludington. Lard compound not stamped.

No. 29427, F-154. Sample of lard compound procured from Elmer Abramhson, Ludington. Lard compound not stamped.

No. 29701, F-161. Sample of lard procured from Propok Kyselka, Traverse City. Product is lard compound. Package not stamped.

No. 29752, B-21. Sample of lard procured from the Hub Mercantile Co., Cheboygan. Product is lard compound not properly stamped.

No. 29767. Unofficial sample of lard. Product is lard compound.

No. 30018, I-260. Sample of lard manufactured and sold by F. Proulx & Son, 816 3rd Ave, Bay City. Not properly labeled as a lard compound.

No. 30533, B-111. Sample of lard compound procured from Sandelman & Co., Pickford. Product is lard compound. Package not stamped.

LINSEED OIL.

This department is charged with the enforcement of the linseed oil law. During the past year we have examined 22 samples of this product, nine of which were found to be adulterated. But three of these were official samples submitted by the inspection force, so these three are the only ones that show who manufactured the oil from which the sample was taken. These, however, were manufactured by Cleveland concerns, the same ones that we have found many times before putting out adulterated oils and have published in preceding bulletins. It has been our experience that the most of the adulterated linseed oils that come into Michigan come from Cleveland, Ohio, and the adulterant generally used is a petroleum product.

No. 27454, G-898. Sample of raw linseed oil manufactured by the Southern States Turpentine Co., Cleveland, Ohio, and procured from J. P. & G. H. Peterman, Mohawk. Sample contains about 22% of a petroleum product.

No. 27456, G-900. Sample of boiled linseed oil manufactured by the National Linseed Oil Co., Cleveland, Ohio, and procured from Morgan & Grierson, Ahmeek. Sample contains about 30% of a petroleum product.

No. 27671, I-87. Sample of raw linseed oil manufactured by the Eastland Linseed Co., Cleveland, Ohio, and procured from E. J. Harwick, Samaria. Adulterated with 20% foreign product.

No. 28850. Unofficial sample of raw linseed oil. Adulterated with a petroleum product.

No. 29071. Unofficial sample of linseed oil. Not pure linseed oil.

No. 29330. Unofficial sample of raw linseed oil. Not a pure linseed oil.

No. 29337. Unofficial sample of boiled linseed oil. Not a pure linseed oil.

No. 29647. Unofficial sample of boiled linseed oil. Sample is highly adulterated.

No. 29712. Unofficial sample of linseed oil. Highly adulterated with a petroleum product.

MAPLE SUGAR AND MAPLE SYRUP.

Eight samples of maple sugar were examined, two of which were found to be adulterated. One sample was found to consist wholly of cane or beet sugar, colored to imitate maple sugar, while one unofficial sample of maple syrup contained absolutely no maple flavor whatever and was not a pure maple syrup.

No. 29645, P-1200. Sample of maple sugar manufactured by H. W. Hart, Nashville, and procured from Orville Ide, Nashville. Product is not maple sugar but consists wholly or in part of cane or beet sugar.

No. 29983, D-201. Sample of maple cakes sold by W. E. Mutton, Grand Rapids. Sample is a mixture of maple sugar and brown sugar.

No. 29596. Unofficial sample of maple syrup. Absolutely no maple flavor.

MEATS.

No. 27732, I-94. Sample of Cherokee Brand Roast Beef manufactured by the Sulzberger & Sons Co., Chicago, Ill., and procured from Amsden Grocery Co., Quincy. Misbranded in that the manufacturer's name was not stated on the label.

No. 27742, P-788. Sample of meat procured from Frank P. Gould, Augusta. Sample consisted wholly or in part of putrid, decomposed and tainted animal substance. Unfit for food.

No. 27752, P-789. Sample of meat procured from Bazley Market, Battle Creek. Consisted wholly or in part of putrid, decomposed and tainted animal substance. Unfit for food.

No. 28268, P-863. Sample of Meat (Pork) procured from Eugene Freeland, Battle Creek. Contains small amount of added suluhurous acid or salts thereof.

No. 30532, F-178. Sample of Beef Ribs procured from J. W. Lockhart, Frankfort. Sample consisted wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal substance.

MILK.

The samples of milk examined hardly need further explanation than already appears in the brief report after each sample. The statute requires that milk to be legal should have a specific gravity of 1.029—1.033; that it should contain 12.5% solids, not less than 3% butter fat and that it contain no foreign or unwholesome substance. In my opinion this law is unfair as it has been my experience that very little milk produced in Michigan will contain 12.5% solids. This content of solids is altogether too high. It seems advisable that this feature of the statute be amended.

Four hundred and sixty-six samples of milk were examined; 198 of these were found to be adulterated; 62 of these were adulterated for the reason that they contained added water. The report shows that samples were found to contain as high as 52% added water, while the average of all samples that were condemned for the above reason contained 20% added water.

At eight cents per quart the average retail price of Michigan milk, this means when a person buys a quart of milk containing 20% water, he is paying 13-5 cents for water. For a family using one quart of milk per day, they pay in a year's time \$5.84 for water. Prosecutions were brought in a number of these cases and fines collected. The amount of fines varied from payment of costs to \$74.00 and costs. Such fines as the former don't go very far in discouraging the watering of milk, as the amount of the fine can readily be made up. At eight cents per quart, on every 40-quart can of milk sold containing 22% added water, the milkman receives 70 cents for water. About ten such cans will generally pay the costs of court proceedings. However, adding \$50.00 to \$100.00 onto the costs in the way of a fine, puts enough of a crimp in the violator's pocketbook that he doesn't care to have it happen again. Forty-seven of the one hundred and ninety-eight samples were skimmed.

Seventy-five samples were adulterated for the reason that they contained an excessive amount of dirt.

During the year at various times, inspectors of this department have given special attention to the milk that was being delivered to the condensing plants in the state. In November and December, 1913, the condensing plant at Lansing was visited and of the 151 samples of milk secured, 58 or about 38% were condemned for containing an excessive amount of visible dirt. Inspections of other plants in the state revealed the fact that the milk in general that was delivered to condensing plants is very dirty, although some plants claim to maintain an inspection service. This sort of inspection, it seems to me, cannot help but be beneficial, as it puts the milk producer who is delivering milk to a condensory on the same plane as the one who is delivering to a city milk supply.

No. 27497, S-18. Sample of milk procured from P. R. Bowen, Tecumseh. Below standard in specific gravity and total solids. Contains about 15% added water.

No. 27509, P-769. Sample of milk procured from Wm. Gillespie, Delton. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 27524, N-11. Sample of milk sold by Patrick Greer, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids.

No. 27525, N-12. Sample of milk sold by Frank McCann, Mt. Pleasant, R. F. D. Below standard in total solids and butter fat. Contains an excessive amount of visible dirt.

No. 27526, N-13. Sample of milk sold by F. C. Berg, Rosebush. Below standard in butter fat. Contains an excessive amount of visible dirt. A part of the cream has been removed.

No. 27527, N-14. Sample of milk sold by R. Quackenbush, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids. Contains an excessive amount of visible dirt. A part of the cream has been removed.

No. 27528, N-15. Sample of milk sold by Art Warner, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids. Contains an excessive amount of visible dirt. A part of the cream has been removed.

No. 27530, N-17. Sample of milk sold by Mat Scully, Mt. Pleasant, R. F. D. Below standard in total solids.

No. 27531, N-18. Sample of milk sold by Mat Wolscheid, Rosebush. Below standard in butter fat and total solids. A part of the cream had been removed.

No. 27532, N-19. Sample of milk sold by F. Fox, Rosebush. Below standard in specific gravity, butter fat and total solids. Contains an excessive amount of dirt.

No. 27533, N-20. Sample of milk sold by P. A. Powell, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids.

No. 27534, N-21. Sample of milk sold by Tom. Gallagher, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids. A part of the cream had been removed.

No. 27535, N-22. Sample of milk sold by Frank Coughlin, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids.

No. 27550, P-772. Sample of milk produced and sold by John King,

Battle Creek, R. F. D. Below standard in specific gravity, total solids and butter fat. Contains about 36% added water.

No. 27574, J-30. Sample of milk produced and sold by W. A. McDonald, Port Huron. Contains an excessive amount of visible dirt.

No. 27577, J-33. Sample of milk produced and sold by Herbert Jones, Atkins. Contains an excessive amount of visible dirt.

No. 27578, J-34. Sample of milk produced and sold by Frank Werkmeister, Atkins. Contains an excessive amount of visible dirt.

No. 27579, J-35. Sample of milk produced and sold by H. W. Burch, Atkins. Contains an excessive amount of visible dirt.

No. 27580, J-36. Sample of milk produced and sold by A. Myron, Atkins. Contains an excessive amount of visible dirt.

No. 27582, Y-122. Sample of milk procured from W. J. Mickle, South Haven. Below standard in specific gravity, butter fat and total solids. Contains about 38% added water and an excessive amount of visible dirt.

No. 27598, P-777. Sample of milk procured from A. L. Wilcox, Three Rivers. Below standard in butter fat and total solids. A part of the cream had been removed.

No. 27658, W-24. Sample of milk procured from Ali Chatelain, Kalamazoo. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 27659, W-25. Sample of milk procured from Ali Chatelain, Kalamazoo. Below standard in specific gravity and total solids. Contains about 19% added water.

No. 27683, P-779. Sample of milk procured from the Whitcomb Hotel, St. Joseph. Below standard in butter fat and total solids. A small amount of cream had been removed.

No. 27715, P-786. Sample of milk produced and sold by Leonard W. Reitkeark, Alamo, R. F. D. No. 13. Below standard in specific gravity, butter fat and total solids. Contains about 30% added water.

No. 27764, S-20. Sample of milk procured from Alfred Godfrey, Jonesville. Below standard in specific gravity, total solids and butter fat. Contains about 20% added water.

No. 27860, S-24. Sample of milk procured from E. F. Couper, Azalia. Below standard in specific gravity, total solids and fat.

No. 27911, S-28. Sample of milk procured from Robert Morris, Montrose R. F. D. Below standard in butter fat, total solids. Above standard in specific gravity. A part of the cream has been removed. Contains an excessive amount of sediment.

No. 27962, S-29. Sample of milk procured from J. P. Ackerman, Monroe R. F. D. Below standard in specific gravity and total solids. Contains an excessive amount of visible dirt and about 47% added water.

No. 27963, S-30. Sample of milk procured from J. H. Stitz and F. A. Nims, Monroe. Below standard in specific gravity and total solids. Contains about 17% added water.

No. 27997, N-30. Sample of milk produced by Richard Raquepau, Birch Run, R. F. D. Below standard in specific gravity, butter fat and total solids. Contains about 25% added water and an excessive amount of visible dirt.

No. 27998, N-31. Sample of milk produced by Mrs. Mary Hogland,

Birch Run, R. F. D. Below standard in specific gravity, butter fat and total solids. Contains about 43% added water.

No. 28114, P-815. Sample of milk procured from E. L. Cole, Battle Creek, R. F. D. Sample is below standard in specific gravity and total solids and contains about 23% added water.

No. 28188, P-816. Sample of milk from B. H. Van Camp, Benton Harbor. Contains an excessive amount of visible dirt.

No. 28189, P-817. Sample of milk from G. H. Smallidge, Benton Harbor. Contains an excessive amount of visible dirt.

No. 28190, P-818. Sample of milk from August Morlock, Watervliet. Contains an excessive amount of visible dirt.

No. 28199, P-827. Sample of milk from A. J. Dean, Eau Claire. Contains an excessive amount of visible dirt.

No. 28200, P-828. Sample of milk from Geo. Morlock, Watervliet. Contains an excessive amount of visible dirt.

No. 28201, P-829. Sample of milk procured from Omer Clark, Eau Claire. Contains an excessive amount of visible dirt.

No. 28202, P-830. Sample of milk procured from Ernest Wolcott, Watervliet. Contains an excessive amount of visible dirt.

No. 28203, P-831. Sample of milk procured from C. D. Yater, Watervliet. Contains an excessive amount of visible dirt.

No. 28207, Unofficial. Sample of milk. Product is homogenized milk, below the legal standard in butter fat, specific gravity and total solids.

No. 28286, P-865. Sample of milk procured from A. Hadley, Battle Creek, R. F. D. Low in total solids and specific gravity and contains approximately 14% added water.

No. 28405, P-882. Sample of milk procured from Chas. Eberstein, Battle Creek. Contains about 10% added water.

No. 28459, P-896. Sample of milk procured from Chas. Eberstein, Battle Creek. Below standard in specific gravity. Contains about 5% added water.

No. 28468, P-897. Sample of milk procured from Chas. Eberstein, Battle Creek. Contains about 12% added water.

No. 28469, Unofficial. Sample of milk. A part of the cream has been removed.

No. 28609, Unofficial. Sample of milk. Contains about 50% added water.

No. 28610, Unofficial. Sample of milk. Contains about 12% added water.

No. 28647, P-945. Sample of milk procured from George Keck, Lansing. Contains an excessive amount of visible dirt.

No. 28648, P-946. Sample of milk procured from Henry Wesemiller, Lansing. Contains an excessive amount of visible dirt.

No. 28649, P-947. Sample of milk procured from E. R. Holly, Lansing. Contains an excessive amount of visible dirt.

No. 28650, P-948. Sample of milk procured from John Volz, Lansing. Contains an excessive amount of visible dirt.

No. 28651, P-949. Sample of milk procured from C. T. Rockwell, Lansing. Contains an excessive amount of visible dirt.

No. 28656, P-954. Sample of milk procured from Norman Weaver, Okemos. Contains an excessive amount of visible dirt.

No. No. 28658, P-956. Sample of milk procured from W. F. Hewitt, Okemos. Contains an excessive amount of visible dirt.

No. 28661, P-959. Sample of milk procured from O. Tommerill, Okemos. Contains an excessive amount of visible dirt.

No. 28663, P-961. Sample of milk procured from C. Klopz, East Lansing. Contains an excessive amount of visible dirt.

No. 28665, P-963. Sample of milk procured from L. Leitske, Lansing. Contains an excessive amount of visible dirt.

No. 28669, P-967. Sample of milk procured from H. Boisnett, Lansing. Contains an excessive amount of visible dirt.

No. 28670, P-968. Sample of milk procured from J. Siple, Lansing. Contains an excessive amount of visible dirt.

No. 28672, P-970. Sample of milk procured from Fred Tucker, Lansing. Contains an excessive amount of visible dirt.

No. 28673, P-971. Sample of milk procured from C. M. Morrison, Lansing. Contains an excessive amount of visible dirt.

No. 28674, P-972. Sample of milk procured from H. F. Lotz, Lansing. Contains an excessive amount of visible dirt.

No. 28678, P-976. Sample of milk procured from F. Kloeper, Lansing. Contains an excessive amount of visible dirt.

No. 28679, P-977. Sample of milk procured from Wm. Maier, Lansing. Contains an excessive amount of visible dirt.

No. 28680, P-978. Sample of milk procured from Geo. Maier, Lansing. Contains an excessive amount of visible dirt.

No. 28681, P-979. Sample of milk procured from Mrs. Wardlick, Lansing. Contains an excessive amount of visible dirt.

No. 28682, P-980. Sample of milk procured from F. I. Slade, Lansing. Contains an excessive amount of visible dirt.

No. 28683, P-981. Sample of milk procured from P. Boomersheim, Lansing. Contains an excessive amount of visible dirt.

No. 28684, P-982. Sample of milk procured from Chas. Maier, Lansing. Contains an excessive amount of visible dirt.

No. 28686, P-984. Sample of milk procured from C. W. Garlock, Lansing. Contains an excessive amount of visible dirt.

No. 28690, P-988. Sample of milk procured from F. M. Hess, Lansing. Contains an excessive amount of visible dirt.

No. 28692, P-990. Sample of milk procured from Geo. St. Clair, Lansing. Contains an excessive amount of visible dirt.

No. 28693, P-991. Sample of milk procured from J. J. Bentley, Lansing. Contains an excessive amount of visible dirt.

No. 28697, P-995. Sample of milk procured from S. Hicks, Lansing. Contains an excessive amount of visible dirt.

No. 28698, P-996. Sample of milk procured from C. Heil, Lansing. Contains an excessive amount of visible dirt.

No. 28705, P-1003. Sample of milk procured from I. R. Doty, Lansing. Contains an excessive amount of visible dirt.

No. 28707, P-1005. Sample of milk procured from Ed. Hill, Lansing. Contains an excessive amount of visible dirt.

No. 28708, P-1006. Sample of milk procured from H. Dixon, Lansing. Contains an excessive amount of visible dirt.

No. 28711, P-1009. Sample of milk procured from E. Copenlander, Lansing. Contains an excessive amount of visible dirt.

No. 28713, P-1011. Sample of milk procured from R. Clendening, Lansing. Contains an excessive amount of visible dirt.

No. 28714, P-1012. Sample of milk procured from Albert Rickert, Lansing. Contains an excessive amount of visible dirt.

No. 28715, P-1013. Sample of milk procured from A. L. Hart, Lansing. Contains an excessive amount of visible dirt.

No. 28717, P-1015. Sample of milk procured from H. J. Lovell, Lansing. Contains an excessive amount of visible dirt.

No. 28719, P-1017. Sample of milk procured from T. Stoll, Lansing. Contains an excessive amount of visible dirt.

No. 28730, P-1028. Sample of milk procured from A. Renkle, Lansing. Contains an excessive amount of visible dirt.

No. 28732, P-1030. Sample of milk procured from J. Eaton, Lansing. Contains an excessive amount of visible dirt.

No. 28733, P-1031. Sample of milk procured from Frank Everett, Lansing. Contains an excessive amount of visible dirt.

No. 28735, P-1033. Sample of milk procured from G. A. Maier, Lansing. Contains an excessive amount of visible dirt.

No. 28736, P-1034. Sample of milk procured from Geo. Rensch, Lansing. Contains an excessive amount of visible dirt.

No. 28737, P-1035. Sample of milk procured from Geo. Kussmaul, Lansing. Contains an excessive amount of visible dirt.

No. 28739, P-1037. Sample of milk procured from F. Goodsell, Lansing. Contains an excessive amount of visible dirt.

No. 28741, P-1039. Sample of milk procured from F. Goodrich, Lansing. Contains an excessive amount of visible dirt.

No. 28742, P-1040. Sample of milk procured from Fred Ellwanger, Lansing. Contains an excessive amount of visible dirt.

No. 28743, P-1041. Sample of milk procured from A. Reboutey, Lansing. Contains an excessive amount of visible dirt.

No. 28744, P-1042. Sample of milk procured from R. T. Lischky, Lansing. Contains an excessive amount of visible dirt.

No. 28745, P-1043. Sample of milk procured from A. Bernard, Lansing. Contains an excessive amount of visible dirt.

No. 28746, P-1044. Sample of milk procured from E. Williams, Lansing. Contains an excessive amount of visible dirt.

No. 28749, P-1047. Sample of milk procured from Phillip Taylor, Lansing. Contains an excessive amount of visible dirt.

No. 28751, P-1049. Sample of milk procured from J. Dingler, Lansing. Contains an excessive amount of visible dirt.

No. 28752, P-1050. Sample of milk procured from A. Lamereaux, Lansing. Contains an excessive amount of visible dirt.

No. 28753, P-1051. Sample of milk procured from A. Burgess, Lansing. Contains an excessive amount of visible dirt.

No. 28754, P-1052. Sample of milk procured from R. Lott, Lansing. Contains an excessive amount of visible dirt.

No. 28755, P-1053. Sample of milk procured from J. Fishel, Lansing. Contains an excessive amount of visible dirt.

No. 28757, P-1055. Sample of milk procured from J. B. Delaney, Lansing. Contains an excessive amount of visible dirt.

No. 28842, P-1063. Sample of milk procured from English & Phillips,

Sturgis. Above standard in Sp. Gr. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 28847, N-34. Sample of milk from Geo. Needham, Breckenridge, R. F. D. No. 5. Contains added water.

No. 28849, N-36. Sample of milk from Geo. Needham, Breckenridge, R. F. D. No. 5. Below standard in specific gravity, butter fat and total solids. Contains an excessive amount of visible dirt and about 46% added water.

No. 28876, P-974. Sample of milk from F. Schroover, Lansing. Contains an excessive amount of visible dirt.

No. 28930. Unofficial sample of milk. Contains a large amount of added water.

No. 28950, P-1066. Sample of milk procured from J. Richmond, Jackson. Below standard in specific gravity, butter fat and total solids. Contains about 40% added water.

No. 28952, P-1068. Sample of milk procured from E. Tripp, Jackson. Below standard in specific gravity and total solids. Contains about 24% added water.

No. 28953, P-1069. Sample of milk procured from C. A. Tripp, Jackson. Below standard in specific gravity, butter fat and total solids. Contains about 52% added water.

No. 28954, P-1070. Sample of milk procured from W. Daniels, Jackson. Below standard in specific gravity, and total solids. Contains about 15% added water.

No. 28956, P-1072. Sample of milk procured from B. Killgallin, Jackson. Below standard in specific gravity and total solids. Contains about 16% added water.

No. 28957, P-1073. Sample of milk procured from Geo. Ford, Jackson. Below standard in specific gravity and total solids. Contains about 18% added water.

No. 28963, P-1074. Sample of milk procured from Tom. Donley, Leoni. Below standard in specific gravity and total solids. Contains about 17% added water.

No. 28964, P-1075. Sample of milk procured from Jay Richmond, Jackson. Below standard in specific gravity, butter fat and total solids. Contains about 39% added water.

No. 28965, P-1076. Sample of milk procured from F. A. Coleman, Mason. Below standard in specific gravity and total solids. Contains about 17% added water.

No. 28890, S-31. Sample of milk procured from Chas. Smith, Jasper. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 28996, I-210. Sample of milk procured from Theo. Kluck, Ann Arbor, R. F. D. No. 5. Below standard in specific gravity, total solids and butter fat. Contains about 13% added water.

No. 29021, N-37. Sample of milk produced by Ed. Hemmeke, Holland, R. F. D. Below standard in specific gravity, butter fat and total solids. Contains about 25% added water.

No. 29024, N-40. Sample of milk produced by H. W. Eleman, Holland, R. F. D. Below standard in specific gravity and total solids. Contains about 16% added water.

No. 29026, P-1080. Sample of milk procured from J. E. Tanswell,

Jackson. Below standard in specific gravity and total solids. Contains about 12% added water.

No. 29077, N-41. Sample of milk produced by Henry Laux, Gera, R. F. D. No. 1. Below standard in specific gravity, butter fat and total solids. Contains about 30% added water.

No. 29078, N-42. Sample of milk produced by Mike Roth, Frankenthuth, R. F. D. No. 2. Below standard in specific gravity, butter fat and total solids. Contains about 26% added water.

No. 29113, P-1081. Sample of milk procured from Peter Michael, Star Restaurant, 406 E. Main St., Jackson. Below standard in butter fat and total solids. Contains about 18% added water.

No. 29116, P-1084. Sample of milk procured from Alex. Savoy, Restaurant, 232 E. Main St., Jackson. Below standard in butter fat and total solids. Above standard in specific gravity. A part of the cream has been removed.

No. 29117, P-1085. Sample of milk procured from Geo. Barnard, N. Y. Restaurant, 224 E. Main St., Jackson. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29118, P-1086. Sample of milk procured from Paris Cafe, Geo. Polapolis, proprietor, 128 E. Main St., Jackson. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29121, P-1089. Sample of milk procured from Sam Chaporis, 221 Francis St., Jackson. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29123, P-1091. Sample of milk procured from Rebecca Jaures, 119 Michigan Ave., Jackson. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29125, P-1093. Sample of milk procured from the Liberty Cafe, Geo. Rores, proprietor. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29134, P-1096. Sample of milk procured from Thomas Donley, Leoni. Below standard in specific gravity and total solids. Contains about 16% added water.

No. 29135, P-1097. Sample of milk procured from Thomas Donley, Leoni. Below standard in specific gravity and total solids. Contains about 14% added water.

No. 29136, P-1098. Sample of milk procured from Thomas Donley, Leoni. Below standard in specific gravity and total solids. Contains about 10% added water.

No. 29157. Unofficial sample of milk. Below standard in total solids. A part of the cream has been removed.

No. 29161. Unofficial sample of milk. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29261, P-1128. Sample of milk procured from H Decker, Hillsdale. Below standard in butter fat and total solids. Above standard in specific gravity. A part of the cream has been removed.

No. 29624, P-1131. Sample of milk procured from E. F. Esterline, Hillsdale. Below standard in specific gravity and total solids.

No. 29288, P-1149. Sample of milk procured from Geo. Gavaris, Hills-

dale. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29365, P-1157. Sample of milk procured from A. I. Haskins, Osseo, R. F. D. No. 28. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29366, P-1158. Sample of milk procured from H. A. Mack, Jonesville, R. F. D. No. 8. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29409, P-1176. Sample of milk procured from R. E. Baxter, Hillsdale. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29412, P-1179. Sample of milk procured from A. I. Haskins, Hillsdale. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29413, P-1180. Sample of milk procured from A. I. Haskins, Hillsdale. Above standard in specific gravity. Below standard in butter fat and total solids. Sample is not normal milk.

No. 29482, N-47. Sample of milk produced by Arend Brouwer, Zeeland, R. F. D. Below standard in specific gravity, butter fat and total solids. Contains about 17% added water.

No. 29495, I-227. Sample of milk procured from Arthur Graves, Midland. Below standard in butter fat and total solids. Sample has been skimmed and watered.

No. 29531, I-232. Sample of milk procured from D. Stratton, Caro. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 29758. Unofficial sample of milk. A part of the cream has been removed.

No. 29921, N-51. Sample of milk procured from Alfred Carter, Chesaning. Below standard in butter fat and total solids.

No. 29980, B-53. Sample of milk procured from H. Lamb, Rogers. Below standard in specific gravity, butter fat and total solids. Contains about 14% added water.

No. 30036, I-307. Sample of milk procured from Laney & Paquett, Cadillac. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30079, P-1227. Sample of milk procured from Clark Salisbury, Coldwater. Below standard in specific gravity, total solids and butter fat. Contains about 20% added water.

No. 30080, P-1228. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity, total solids and butter fat. Contains about 13% added water.

No. 30083, P-1231. Sample of milk procured from F. E. Robinson, Coldwater. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30085, P-1233. Sample of milk procured from Gifford & Chapman, Coldwater. Below standard in specific gravity and total solids. Contains about 27% added water.

No. 30088, P-1236. Sample of milk procured from Clark Salisbury, Coldwater. Below standard in specific gravity, butter fat and total solids. Contains about 15% added water.

No. 30094, P-1240. Sample of milk procured from Gifford & Chap-

man, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30095, P-1241. Sample of milk procured from Gifford & Chapman, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30096, P-1242. Sample of milk procured from Gifford & Chapman, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30097, P-1243. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity and total solids. Contains about 16% added water.

No. 30098, P-1244. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity, total solids and butter fat. Contains about 12% added water.

No. 30099, P-1245. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity, total solids and butter fat. Contains about 14% added water.

No. 30100, P-1246. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity and total solids. Contains about 10% added water.

No. 30101, P-1247. Sample of milk procured from A. F. Hayward, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30103, P-1249. Sample of milk procured from R. W. Grove, Coldwater. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30104, P-1250. Sample of milk procured from R. W. Grove, Coldwater. Below standard in specific gravity and total solids. Contains about 44% added water.

No. 30105, P-1251. Sample of milk procured from F. E. Robinson, Coldwater. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30107, P-1253. Sample of milk procured from C. H. Russell, Coldwater. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30108, P-1254. Sample of milk procured from Clark Salisbury, Coldwater. Below standard in specific gravity, butter fat and total solids. Contains 18% added water.

No. 30109, P-1255. Sample of milk procured from Clark Salisbury, Coldwater. Below standard in specific gravity, butter fat and total solids. Contains about 22% added water.

No. 30115, P-1261. Sample of milk procured from Chas. Murdock, Coldwater. Below standard in specific gravity and total solids. Sample contains about 15% added water.

No. 30116, P-1262. Sample of milk procured from W. Hollenbeck, Coldwater. Below standard in specific gravity, butter fat and total solids. Contains about 10% added water.

No. 30117, P-1263. Sample of milk procured from A. C. Hadlock, Coldwater. Below standard in specific gravity and total solids. Contains about 15% added water.

No. 30118, P-1264. Sample of milk procured from Chas. Murdock, Coldwater. Below standard in specific gravity and total solids. Contains about 13% added water.

No. 30123, I-272. Sample of milk produced by Sherman Rickard, Waldron. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30124, I-273. Sample of milk procured from Sherman Rickard, Waldron. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30234, I-286. Sample of milk procured from A. Stauffer, Waldron. Below standard in butter fat and total solids. Part of the cream has been removed.

No. 30240, I-292. Sample of milk procured from Ed. Ackley, Waldron. Contains an excessive amount of dirt.

No. 30284, P-1292. Sample of milk procured from Pearl and J. G. Brownell, Hudson. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30332, I-303. Sample of milk procured from Chas. W. Ziegler, Cadillac. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30334, I-305. Sample of milk procured from Frank Gregg, Cadillac. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30467, I-324. Sample of milk procured from Warren Sternaman, Owosso. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30468, I-325. Sample of milk procured from Mrs. Nettie Johnson, Owosso. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30469, I-326. Sample of milk procured from Will May, Owosso. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30472, I-329. Sample of milk procured from G. and C. Capatan Bros., Owosso. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30524. Unofficial sample of milk. Butter fat 1.7%. Below standard.

No. 30569, N-56. Sample of milk produced by Frank McDonald, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids.

No. 30571, N-58. Sample of milk produced by M. Murphy, Mt. Pleasant. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30572, N-59. Sample of milk produced by Frank Coughlin, Mt. Pleasant, R. F. D. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30573, N-60. Sample of milk produced by James Daniels, Mt. Pleasant, R. F. D. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30574, N-61. Sample of milk produced by Fred Farner, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids.

No. 30575, N-62. Sample of milk produced by J. Cooper, Rosebush, R. F. D. Above standard in specific gravity. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30576, N-63. Sample of milk produced by D. Torpey, Mt. Pleasant.

ant, R. F. D. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30577, N-64. Sample of milk produced by G. McLachlin, Mt. Pleasant, R. F. D. Below standard in butter fat and total solids. A part of the cream has been removed.

No. 30579, N-66. Sample of milk produced by C. E. Emery, Mt. Pleasant. Below standard in butter fat and total solids.

MILK CANS.

P-1057. Milk can procured from F. Greer, Lansing. Rusty and insanitary.

P-1058. Milk can procured from Robert Ellwanger, DeWitt. Rusty and insanitary.

P-1059. Milk can procured from Edgar Bohe, Dimondale. Rusty and insanitary.

P-1060. Milk can procured from C. W. Garlock, Grand Ledge, R. F. D. No. 4. Rusty and insanitary.

P-1061. Milk can procured from Frank King, Lansing, R. F. D. No. 4. Rusty and insanitary.

MISCELLANEOUS.

No. 27910, I-119. Sample of Spanish red peppers handled by Lee & Cady, Detroit. Misbranded in that the manufacturer's name and address do not appear on the label.

No. 28135, Y-144. Sample of Cosco brand crushed strawberries manufactured by the Sethness Co., Chicago. Artificially colored. Not labeled.

MUSHROOMS.

No. 27750, U-15. Sample of mushrooms sold by Francis Leggett & Co., New York, and procured from M. & J. Frank, Detroit. Bleached with sulphur dioxide. Misbranded in that the packer's name and address do not appear on the label.

No. 27751, U-16. Sample of mushrooms sold by Francis Leggett & Co., New York, and procured from M. & J. Frank, Detroit. Bleached with sulphur dioxide. Misbranded in that the packer's name and address do not appear on the label.

MUSTARD PREPARATIONS.

No. 28772, I-196. Sample of "LaCreme Salad Mustard" manufactured by R. J. Meguiar & Co., Piqua, Ohio, handled by the National Grocer Co., Port Huron. Misbranded.

NUTS.

During the months of November and December there appeared on the markets a number of different kinds of mixed nuts, that were peculiar in color. They all had the appearance of a high grade of mixed nuts. An examination of some of them showed that they had been coated with an iron oxide, thereby giving them their reddish brown color. Seven samples of this class of goods were examined and are reported herewith.

No. 28394, P-881. Sample of Brazil nuts sold by Reid, Murdock Co., Chicago, Ill. Coated with iron compound, thereby causing them to appear better or of greater value than they really are.

No. 28495, P-898. Sample of "Pili" nuts sold by J. B. Lavezzorio & Co., Chicago, Ill. Coated with iron compound, thereby causing them to appear better or of greater value than they really are.

No. 28496, P-899. Sample of Pecan nuts sold by Joe Casabian, Grand Rapids. Coated with iron compound, thereby causing them to appear better or of greater value than they really are.

No. 28500, P-900. Sample of "Pili" nuts sold by Lee & Cady, Kalamazoo. Coated with iron compound, thereby causing them to appear better or of greater value than they really are.

No. 28501, P-901. Sample of "Paradise" nuts sold by Denney & Co., Chicago, Ill. Coated with iron compound, thereby causing them to appear better or of greater value than they really are.

No. 28551, P-906. Sample of mixed nuts procured from Geo. Spaniolo, Lansing. Pili nuts are coated with iron compound, thereby causing them to appear better or of greater value than they really are.

No. 28789, Y-164. Sample of nuts sold by Frank Spalla, Kalamazoo. Coated with iron compound, thereby causing them to appear better or of greater value than they really are.

OLEOMARGARINE.

The most of the oleomargarine sold is not adulterated in the common meaning of the term. The 46 samples reported below were either misbranded or formed the part of an illegal sale, by being sold at a restaurant or store in which the proper sign was not displayed.

No. 27354, U-9. Sample of oleomargarine procured from J. W. Goldman, 1413 Michigan Ave., Detroit. Sample is oleomargarine, no sign displayed.

No. 27395, S-16. Sample of oleomargarine procured from L. O. Folson, Pontiac. Sample is oleomargarine, no sign posted.

No. 27467, I-68. Sample of oleomargarine procured from Hall & Kennedy, Coldwater. Sample is oleomargarine, no sign posted.

No. 27692, G-921. Sample of oleomargarine procured from John Seigel, Marquette. Sample is oleomargarine, no sign displayed.

No. 27716, F-81. Sample of oleomargarine procured from Chas. Moral, 916 Grand River Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27728, U-14. Sample of oleomargarine procured from Robert Hirt, Jr., 32 Market St., Detroit. Product is oleomargarine. No sign displayed.

No. 27785, A-5. Sample of oleomargarine procured from Parker-Webb & Co., Detroit. Misbranded.

No. 27797, V-26. Sample of oleomargarine procured from the Economy Market Co., Detroit. Product is oleomargarine. No sign displayed.

No. 27834, A-11. Sample of oleomargarine from Fred (or Edward) Raulo, 1750 Michigan Ave., Detroit. Product is oleomargarine artificially colored.

No. 27835, A-12. Sample of oleomargarine procured from Mrs. G. J. Pixley, 365 Dix Ave., Detroit. Sample is oleomargarine artificially colored.

No. 27850, A-13. Sample of oleomargarine procured from K. Matteson, 1799 W. Fort St., Detroit. Sample is oleomargarine artificially colored.

No. 27899, A-14. Sample of oleomargarine procured from Webster & Wolcott, 495 Grand River Ave., Detroit. Sample is pure butter. Package stamped oleomargarine. Misbranded.

No. 27905, F-965. Sample of oleomargarine manufactured by the White Front Butter & Egg Co., Detroit, and procured from A. Wayne Detroit. Sample is oleomargarine artificially colored.

No. 27945, U-41. Sample of oleomargarine procured from N. D. Solon & Co., Pontiac. Sample is oleomargarine. No sign posted.

No. 27959, F-101. Sample of oleomargarine procured from A. Longeland, Muskegon. Sample is oleomargarine. No sign displayed.

No. 28003, U-43. Sample of oleomargarine procured from E. H. Westbrook, 2525 E. Jefferson Ave., Detroit. Sample is oleomargarine. No sign posted.

No. 28063, A-15. Sample of oleomargarine procured from Webster & Wolcott, 495 Grand River Ave., Detroit. Sample is oleomargarine artificially colored.

No. 28064, A-16. Sample of oleomargarine procured from Redford & Son, 447 Grand River Ave., Detroit. Sample is oleomargarine artificially colored.

No. 28065, V-32. Sample of oleomargarine procured from Rodger & Miles, 43 Clifford St., Detroit. Sample is oleomargarine artificially colored.

No. 28139, G-940. Sample of oleomargarine procured from Geo. Jensen, Escanaba. Legal sign not displayed.

No. 28159, I-155. Sample of oleomargarine procured from Edward Keefer, Ann Arbor. Proper sign not displayed.

No. 28225, J-38. Sample of oleomargarine procured from T. Faust, 168 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

No. 28295, V-37. Sample of oleomargarine procured from Fred Schandt, 1521 Mt. Elliott Ave., Detroit. Product is oleomargarine artificially colored.

No. 28343, G-957. Sample of oleomargarine procured from Vertin Bros. Inc., Calumet. Legal sign not displayed.

No. 28364, G-971. Sample of oleomargarine procured from the Finnish Workmen's Cooperative Co., Kearsage. Product is oleomargarine. No sign displayed.

No. 28596, P-920. Sample of oleomargarine procured from M. C. Saunders, East Lansing. Product is oleomargarine. No sign posted.

No. 28637, G-1016. Sample of oleomargarine procured from A. Eister, Laurium. Product is oleomargarine. Legal sign not displayed.

No. 27849, D-194. Sample of oleomargarine procured from T. Faust, 168 Michigan Ave., Detroit. Sample is oleomargarine artificially colored.

No. 28872, G-1028. Sample of oleomargarine procured from R. J. Knebone, Ontonagon. Legal sign not displayed.

No. 28880, G-1035. Sample of oleomargarine procured from Zenon Chattell, Lake Linden. Sample is oleomargarine. Legal sign not displayed.

No. 28892, I-194. Sample of oleomargarine from Peter Trese, Port Huron. Legal sign not displayed.

No. 28928, V-44. Sample of oleomargarine procured from Rodger & Miller, 840½ Michigan Ave., Detroit. Sample is oleomargarine artificially colored. No sign displayed.

No. 28934, V-45. Sample of oleomargarine procured from M. A. McGowan, 208 Griswold St., Detroit. No sign displayed.

No. 28935, V-46. Sample of oleomargarine from M. A. McGowan, 155 W. Jefferson Ave., Detroit. No sign displayed.

No. 28940, G-1043. Sample of oleomargarine procured from Loni LaBranche, LaBranche. No sign displayed.

No. 28969, G-1056. Sample of oleomargarine procured from Frank Peterson & Co., Manistique. Legal sign not displayed.

No. 29238, G-1068. Sample of oleomargarine procured from Wheatley Bros., Sault Ste. Marie. Legal sign not displayed.

No. 29240, G-1070. Sample of oleomargarine procured from J. A. Roberg, Sault Ste. Marie. Legal sign not displayed.

No. 29497, I-229. Sample of oleomargarine procured from Wm. H. Short, Midland. No sign displayed.

No. 29525, G-1078. Sample of oleomargarine procured from Joseph Parolari, Iron River. Legal sign not displayed.

No. 29528, G-1081. Sample of oleomargarine procured from Salmi & Co., Stambaugh. No sign displayed.

No. 29753, B-22. Sample of oleomargarine procured from L. Tallman, Cheboygan. No sign displayed.

No. 30012, I-254. Sample of oleomargarine procured from Joseph Denny, Bay City. No sign displayed.

No. 30367, B-83. Sample of oleomargarine procured from the Co-operative Hotel, Cadillac. No sign displayed.

No. 30368, B-84. Sample of oleomargarine procured from J. Cornwell & Son, Cadillac. No sign displayed.

No. 30536, F-179. Sample of oleomargarine procured from Geo. W. Rupright, Elberta. No sign displayed.

OLIVES.

No. 28001, E-58. Sample of olives handled by Symons Bros., Saginaw, and procured from A. W. Thorpe, Clare. Manufacturer's name and address not on label.

OYSTERS.

But fifteen samples of oysters were submitted and examined during the year. Seven of these were classed as adulterated owing to the fact that they contained an excessive amount of water.

There are two ways by which water may be added to oysters. One is by adding the water direct to the container or by placing a piece of ice in with the oysters, and the other is by allowing the oysters after they are taken from the shipping can, to soak in water for several hours, then removing the oysters and allowing them to drain. This is often called "floating" or "soaking," and it gives the oyster a sleek fat appearance and increases the weight and volume considerably. Oysters are sometimes floated at the beds before removal from the shell. This is accomplished by allowing them to lay on racks or floats at the mouth

of fresh water streams. Oysters that are "floated" either at the beds or after receipt by the jobber or dealer will generally show an excessive amount of unabsorbed water upon analysis.

There seems to have been no definite standard set for the amount of unabsorbed water permissible in oysters. That there would be some unabsorbed water in the best handled oysters and this amount would vary under different conditions are generally accepted facts. Owing to the lack of work along this line each state must set its own standard. The state of Maine requires that the per cent of liquid drained from oysters should not exceed 17% when drained through a colander for 10 minutes. The Food Commissioner of Indiana has reported an experiment of an analysis of shell oysters, which shows an average of 19.86% of unabsorbed water in the samples. An analysis of 10 samples taken by myself from original unopened containers, just as they were shipped from the beds, was made in this laboratory and the results show a maximum of 21.13% unabsorbed water, a minimum of 2.49% unabsorbed water, with an average of 10.39%. Therefore, it would seem that samples of oysters which show more than the above results would indicate an addition of water in one of the two ways previously mentioned.

No. 28089, P-814. Sample of oysters, procured from Herman Scholz, Battle Creek. Sample contains an excessive amount of unabsorbed water.

No. 28213, P-834. Sample of oysters procured from M. J. Teed, Benton Harbor. Oysters contain an excessive amount of moisture.

No. 28258, I-159. Sample of oysters procured from Joseph Robert & Son, Monroe. Sample contains an excessive amount of moisture.

No. 28421, G-1004. Sample of oysters sold by the Cudahy Packing Co., Houghton. Sample contains an excessive amount of water.

No. 28600, I-184. Sample of oysters procured from J. Roberts & Son, Monroe. Sample contains an excessive amount of moisture.

No. 28602, I-186. Sample of oysters procured from C. Munch, Monroe. Sample contains an excessive amount of moisture.

No. 28603, I-187. Sample of oysters procured from Joseph Roberts & Son, Monroe. Sample contains an excessive amount of moisture.

PRESERVATIVES.

Some firms (See Dairy and Food Bulletins Nos. 177-203 inclusive), mix up a batch of common salt, saltpetre and sodium sulphite, put it up in a fancy colored bottle or carton, give it a coined name such as "XXXX Preservaline," "Zero," "I. X. L. Preservative," "Freeze-em," etc., and palm it off onto the butcher at an exorbitant price. The labels on these packages claim them to be merely an antiseptic for use in cleaning and scrubbing ice boxes, etc., and are generally worded about the same, of which the following is a good example:

"ZERO."

The active principle of Zero is a gas which is given off when the powder becomes moist. This gas is a powerful germicide and deodorizer and can be advantageously used in various ways.

"DIRECTIONS."

To keep ice boxes pure and fresh, etc. (With directions for using.)

To keep tubs, pails, blocks and all butchers' and packers' utensils clean and fresh, etc. (With directions for using.)

Nowhere in the entire label does it say anything about using this material in meat. But this feature is conveniently met by the agents who give the butcher verbal instructions as to how it can be used in meats. Then when we find it in chopped meat we can only hold the butcher liable as the manufacturers have a legal right to sell it under their labels.

This it seems to me, constitutes a wholesale fraud on the butcher not only in selling him an article at an exorbitant price that costs but a few cents, but also through misrepresentation puts him in a position where he may be prosecuted by this department.

No. 27276, G-892. Sample of Enterprise Preservative manufactured by the Heller Chemical Co., Chicago, and procured from the Houghton Pure Food Co., Houghton. Sample consists chiefly of sodium bi-sulphite. Not permissible in food products.

No. 27475, G-903. Sample of Freeze-em manufactured by B. Heller & Co., Chicago, Ill., and procured from J. P. Peterman, Kearsarge. Sample contains sulphites, not permissible in food products.

No. 27612, Y-124. Sample of German Conserveirung Salts procured from M. Weise, 1749 Mt. Elliot Ave., Detroit. Contains boric acid or salts thereof, not permissible in food products.

RAISINS.

No. 27634, I-84. Sample of Seedless Raisins packed by Castle Bros., California, handled by the Feilbach Co., Toledo, Ohio, and procured from J. Fred Betz, Adrian. Misbranded in that the manufacturer's address is not complete.

No. 27755, I-99. Sample of Sun Kist Seeded Raisins packed by J. K. Armsby Co., California, and procured from L. A. Leinbach, Jackson. Misbranded in that the address of the manufacturer is not stated on the label.

No. 27756, I-100. Sample of Pansy Seedless Raisins packed by Guggen-
hime & Co., California, handled by Lee & Cady, Detroit, and procured from L. Farrell & Son, Jackson. Misbranded in that the manufacturer's full address is not stated on the label.

No. 27894, I-114. Sample of Glen Rosa Brand Seedless Raisins manufactured by the North Ontario Packing Co., California, handled by Moel-
lering Bros. and Millard, Fort Wayne, Ind., and procured from M. M. Berry, Montgomery. Misbranded in that the complete address of the manufacturer is not stated on the label.

RED PEPPERS.

No. 28187, I-156. Sample of red peppers sold by Francis H. Leggett & Co., New York, and procured from L. T. Freeman Co., Chelsea. Packer's name and address not stated on the label. Misbranded.

RICE.

No. 27699, U-13. Sample of rice procured from Yee Chong Lung Co., 158 Randolph St., Detroit. Sample is coated with glucose and talc.

SALAD DRESSING.

No. 30028, U-65. Sample of salad dressing manufactured by the Hay Manufacturing Co., Detroit. Misbranded in that the statement "Net weight 6 ozs. avd" on the label is not the true net weight.

SALMON.

No. 27890, I-111. Sample of Hunters Brand Salmon, packed by the Alaska Packers Association, Alaska, handled by the Hillsdale Grocery Co., Hillsdale, and procured from Lyon & Chesley, Pittsford. Misbranded in that the complete address of the packer is not stated on the label.

SARDINES.

No. 27771, I-102. Sample of "Une Saveur" American Sardines put up by Holmes Co., and procured from C. E. Howell, Rives Junction. Misbranded in that the address of the manufacturer is not stated on the label.

No. 27772, I-103. Sample of "Victoria Navy Smoked Sardines" sold by the Jackson Grocery Co., Jackson, and procured from B. G. Champlin & Son, Jackson. Misbranded in that label does not give name or address of manufacturer.

No. 27891, I-112. Sample of Pot Luck American Sardines packed by the Seacoast Canning Co., handled by Berdan & Co., Toledo, Ohio, and procured from F. S. Sackett, Litchfield. Misbranded in that the complete address of the manufacturer is not stated on the label.

No. 28044, I-124. Sample of Falcon Brand Sardines handled by the Falcon Packing Co., New York, and procured from Beck & Goetz, Monroe. Misbranded in that the packer's name and address is not stated on the label.

No. 28100, I-140. Sample of Maxim Brand Sardines handled by Vhay Fisheries Co., Detroit, and procured from Harry L. Sturn, Munroe. Misbranded in that the packer's name and address is not stated on the label.

No. 28101, I-141. Sample of Little Gem Sardines handled by the Vhay Fisheries Co., Detroit, and procured from H. L. Sturn, Monroe. Misbranded in that the packer's name and address is not stated on the label.

SAUSAGE.

Two hundred forty-four samples of sausage were examined during the year to ascertain whether or not they complied with the sausage act. One hundred forty-three of these were found not to comply and were classed as adulterated or misbranded.

The statute passed by the last legislature requires that all sausage containing cereal shall be properly labeled so that the consumer will be appraised of the fact. It also requires that not over 2% cereal can be used in any sausage. Forty-seven of the samples reported herewith are

condemned for the reason that they contained cereal, but no statement appeared on the label to indicate the same, therefore, they were misbranded under the act. Eighty-five of the samples proved upon analysis to contain an amount of cereal in excess of 2% and were condemned chiefly for that reason. A number of these samples also failed to bear any statement on the package that they contained any cereal. One of these samples contained as high as 11% of cereal, while many of them contained over 5%. Nine samples were adulterated for the reason that they contained added sulphurous acid or salts thereof as a preservative. The law specifically prohibits the use of this material in sausage. Prosecutions were instituted on many of these samples and fines collected in a number of cases.

No. 27590, I-72. Sample of bologna sausage manufactured and sold by Schmid & Schleh, Saline. Cereal present. No statement on the package to indicate same.

No. 27607, I-81. Sample of bologna sausage manufactured and sold by C. A. Chamberlain, Springport. Sample contains cereal, package not stamped. Casing artificially colored.

No. 27676, X-371. Sample of pork sausage procured from E. R. Wilber & Son, Owosso. Cereal present, package not stamped.

No. 27788, U-22. Sample of sausage manufactured by the Detroit Provision Co., Detroit. Cereal present. Not stamped to indicate same.

No. 27799, V-28. Sample of ring sausage handled by Schiller & Kaufman, Detroit, and procured from the Economy Market Co., Detroit. Cereal present. Package not stamped to indicate same.

No. 27843, F-93. Sample of frankfurt sausage procured from Roy A. Cadwell, Grandville. Cereal present. No statement on package to indicate same.

No. 27848, D-195. Sample of sausage procured from Lambkin Bros., 125 Michigan Ave., Detroit. Cereal present. Package not stamped.

No. 27896, U-39. Sample of sausage manufactured by John A. Peters, 620 Dix Ave., Detroit. Sample contains an excessive amount of cereal. Package not stamped.

No. 27908, G-928. Sample of bologna sausage manufactured by Dan Holland, Hancock, and procured from N. Lepisto & Co., Hancock. Cereal present. Package not stamped.

No. 27909, G-929. Sample of frankfurt sausage manufactured by Henry Martinmaki, Hancock, and procured from I. Lehto & Co., Hancock. Cereal present. Package not stamped to indicate same.

No. 27926, F-99. Sample of frankfurt sausage manufactured by Chas. Shoenberg, Muskegon. Cereal present. Package not stamped to indicate same.

No. 28020, E-62. Sample of bologna sausage manufactured by Scheibel Bros., Cadillac. Cereal present. Package not stamped to indicate same.

No. 28045, F-104. Sample of sausage procured from A. J. Wibolda, Muskegon. Sample contains an excessive amount of cereal. Package not stamped.

No. 28092, I-137. Sample of bologna sausage manufactured and sold by Heck's Sons, Monroe. Sample contains an excessive amount of cereal. Package not stamped.

No. 28093, I-138. Sample of bologna sausage manufactured and sold by Schrauder & Co., Monroe. Sample contains an excessive amount of cereal. Package not stamped.

No. 28111, F-106. Sample of sausage manufactured by Otto Lunow, Muskegon, and procured from F. J. Carr, Muskegon. Sample contains an excessive amount of cereal. Package not stamped.

No. 29053, G-1064. Sample of pork sausage manufactured and sold by D. A. Holland, Hancock. Cereal 7.77%. Contains an excessive amount of cereal and water. Package or product not stamped.

No. 29241, G-1071. Sample of pork sausage procured from Alex McIntosh, Sault Ste. Marie. Cereal present. Package or product not stamped.

No. 29242, G-1072. Sample of frankfurt sausage manufactured by the Cornwell Beef Co., Sault Ste. Marie, and procured from A. H. Eddy, Sault Ste. Marie. Product contains an excessive amount (6.85%) cereal. Product or package not stamped.

No. 29248, P-1148. Sample of bologna manufactured and sold by Croose Cooper Co., Hillsdale. Product contains an excessive amount (4.41%) of cereal. Package or product not stamped.

No. 29271, P-1138. Sample of bologna sausage manufactured and sold by A. J. Colvin, Hillsdale. Product contains an excessive amount (11.31%) cereal. Package or product not stamped.

No. 29331, G-1072. Sample of bologna sausage manufactured by Henry Martinmaki, Hancock. Cereal 7.35%. Sample contains an excessive amount of cereal. Package or product not stamped.

No. 29341, F-148. Sample of sausage manufactured by Lewis Eliasohn, Ludington. Cereal 7.22%. Product contains an excessive amount of cereal and water. Package or product not marked or stamped.

No. 29416, G-1075. Sample of bologna sausage manufactured by Steve Melka, Ishpeming. Cereal 7.42%. Product contains an excessive amount of cereal. Package or product not marked or stamped.

No. 29429, P-1182. Sample of bologna sausage manufactured by the Saginaw Beef Co., Jackson, and procured from W. L. Bullen, Parma. Sample contains an excessive amount of cereal. Package or product not stamped. Cereal 6.40%.

No. 29459, G-1076. Sample of frankfurt sausage manufactured by Steve Melka, Ishpeming, and procured from Chas. Dorais, Marquette. Cereal 7.49%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29538, G-1082. Sample of pork sausage procured from Nelson & Carlson, Iron Mountain. Product contains cereal. Package or product not stamped.

No. 29568, P-1189. Sample of sausage manufactured by Richard Wirsing, Jackson. Cereal 2.34%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29569, P-1190. Sample of sausage manufactured by Richard Wirsing, Jackson. Cereal 2.67%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29572, P-1193. Sample of sausage manufactured by Richard Wirsing, Jackson. Cereal 3.57%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29573, P-1194. Sample of sausage manufactured by Richard Wirsing, Jackson. Cereal 4.52%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29638, G-1083. Sample of pork sausage manufactured and sold

by Nick Gunter, Escanaba. Cereal 7.48%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29639, G-1084. Sample of bologna sausage manufactured and sold by Nick Gunter, Escanaba. Cereal 3.24%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29727, P-1215. Sample of sausage procured from Harlan Lacky, Dowagiac. Cereal 5.25%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29728, P-1216. Sample of sausage manufactured and sold by Pugsley & Squires, Dowagiac. Cereal 3.69%. Product contains an excessive amount of cereal.

No. 29754, B-23. Sample of sausage procured from J. A. Garrow, Cheboygan. Cereal 3.33%. Product contains an excessive amount of cereal.

No. 29755, B-24. Sample of sausage procured from J. A. Garrow, Cheboygan. Cereal 2.51%. Product contains an excessive amount of cereal.

No. 29827, P-1217. Sample of frankfurt sausage manufactured and sold by the Howard Meat Co., Albion. Cereal 2.97%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29829, P-1219. Sample of bologna sausage manufactured and sold by the Howard Meat Co., Albion. Cereal 3.38%. Product contains an excessive amount of cereal. Package or product not stamped.

No. 29987, D-207. Sample of bologna sausage manufactured and sold by the Grand Rapids Sanitary Market, 436 Bridge St., Grand Rapids. Cereal 5.12%. Contains an excessive amount of cereal. Package or product not stamped to indicate the presence of cereal.

No. 29989, I-242. Sample of pork sausage manufactured and sold by Frank Waltman, 1110 Columbus St., Bay City. Cereal 5.18%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29990, I-243. Sample of bologna sausage manufactured and sold by Paul Walter, 110 N. Washington St., Bay City. Cereal 4.07%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 29991, I-244. Sample of frankfurt sausage procured from Ernest Gieritz & Son, 1608 Columbus St., Bay City. Cereal 2.44%. Package or product not stamped.

No. 28403, I-169. Sample of frankfurt sausage procured from W. N. Farline, Springport. Package not stamped to indicate cereal.

No. 28404, I-170. Sample of bologna sausage manufactured and sold by C. A. Chamberlain, Springport. Product contains an excessive amount of cereal. Package or product not stamped.

No. 28485, Y-159. Sample of bologna sausage manufactured and sold by George Zimmer, Bay City. Sample contains an excessive amount (2.51%) of cereal. Not stamped.

No. 28492, F-121. Sample of sausage procured from A. Schlaif, Manistee. Product contains added sulphurous acid or salts thereof.

No. 28549, P-904. Sample of sausage procured from the Chicago Market, Lansing. Product contains added sulphurous acid or salts thereof.

No. 28550, P-905. Sample of sausage manufactured and sold by Bee-man Bros., Lansing. Contains sodium benzoate. Package not stamped "Prepared with sodium benzoate."

No. 28572, P-923. Sample of bologna sausage manufactured and sold

by the Chicago Market, Lansing. Package or product not stamped to indicate the presence of cereal.

No. 28595, P-938. Sample of sausage procured from Bazley Market Co., Lansing. Package not stamped to indicate the presence of cereal.

No. 28612, G-1008. Sample of bologna sausage procured from Schnellar & Co., Laurium. Cereal 2%. Package or product not stamped.

No. 28613, G-1009. Sample of bologna sausage manufactured and sold by Niemela & Wickstrom, Laurium. Cereal present. Package or product not stamped.

No. 28615, G-1011. Sample of bologna sausage manufactured and sold by W. J. Reynolds, Laurium. Cereal present. Package or product not stamped.

No. 28634, G-1013. Sample of bologna sausage manufactured and sold by Salicetti & Carbonatti, Laurium. Cereal present. Package or product not stamped.

No. 28783, F-128. Sample of bologna sausage procured from Joseph Maxbauer & Son, Traverse City. Product contained an excessive amount (2.70%) of cereal. Package or product not stamped.

No. 28803, F-133. Sample of sausage procured from Glen Lutz, Traverse City. Product contains a small amount of sulphurous acid or salts thereof.

No. 28812, W-27. Sample of sausage procured from Peter Sliter, Kalamazoo. Product contains added sulphurous acid or salts thereof.

No. 28841, G-1020. Sample of bologna sausage manufactured by Dan A. Holland, Hancock, and procured from the Western Federation of Mines, South Range. Product contains an excessive amount (4.53%) of cereal. Package or product not stamped.

No. 28866, G-1023. Sample of pork sausage manufactured by D. A. Holland, Hancock, and procured from H. S. Goodell & Co., Winona, Houghton Co. Sample contains an excessive amount (4.47%) of cereal. Package not stamped.

No. 28879, G-1034. Sample of frankfurt sausage procured from Zenon Chattell, Lake Linden. Cereal present. Package or product not stamped.

No. 28881, G-1036. Sample of bologna sausage manufactured and sold by Joseph Robert, Lake Linden. Cereal present. Package or product not stamped.

No. 28884, G-1039. Sample of bologna sausage manufactured and sold by L. Hennes & Co., Lake Linden. Sample contains an excessive amount (2.8%) of cereal. Package or product not stamped.

No. 28937, G-1040. Sample of frankfurt sausage manufactured and sold by Hugo Breitenbach, North Escanaba. Product contains an excessive amount (5.57%) of cereal. Package or product not stamped.

No. 28943, G-1046. Sample of bologna sausage manufactured and sold by Morris Anderson, Gladstone. Cereal present. Package or product not stamped.

No. 28946, G-1049. Sample of frankfurt sausage manufactured and sold by M. P. Foy, Gladstone. Product contains an excessive amount (3.54%) of cereal. Package or product not stamped.

No. 28948, G-1051. Sample of bologna sausage manufactured and sold by Olson & Anderson, Gladstone. Product contains an excessive amount (2.79%) of cereal. Package or product not stamped.

No. 28949, G-1052. Sample of bologna sausage manufactured and sold by Anderson & Holm, Gladstone. Product contains an excessive amount (4.89%) of cereal. Package or product not stamped.

No. 29047, G-1058. Sample of pork sausage manufactured by D. A. Holland, Hancock, and procured from E. F. Slatterly, Ripley. Product contains an excessive amount (5.42%) of cereal. Package or product not stamped.

No. 29048, G-1059. Sample of bologna sausage manufactured by D. A. Holland, Hancock, and procured from E. F. Slatterly, Ripley. Product contains an excessive amount (7.26%) of cereal. Package or product not stamped.

No. 29049, G-1060. Sample of bologna sausage manufactured and sold by D. A. Holland, Hancock. Product contains an excessive amount (6.49%) of cereal. Package or product not stamped.

No. 29050, G-1061. Sample of frankfurt sausage manufactured and sold by D. A. Holland, Hancock. Product contains an excessive amount (5.08%) of cereal. Package or product not stamped.

No. 29992, I-245. Sample of bologna sausage procured from Geo. DuFresne, Bay City. Cereal 2.14%. Package or product not stamped.

No. 29993, I-246. Sample of bologna sausage manufactured by Geo. Zimmer and procured from Ed. L. Baumgartner, Bay City. Cereal 3.82%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29994, I-248. Sample of bologna sausage manufactured and sold by Conrad A. Guntermann, Bay City. Cereal 3.03%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29995, I-249. Sample of bologna sausage manufactured and sold by Dehn Bros., Bay City. Cereal 6.22%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29996, I-250. Sample of bologna sausage manufactured by Geo. Zimmer, Bay City, and procured from Geo. Guntermann, Bay City. Cereal 2.94%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29998, I-252. Sample of bologna sausage manufactured and sold by Geo. Zimmer, Bay City. Cereal 2.73%. Contains an excessive amount of cereal. Package or product not stamped.

No. 29999, I-253. Sample of frankfurt sausage procured from Fred Salathe, Bay City. Cereal 2.25%. Package or product not marked or stamped.

No. 30013, I-255. Sample of frankfurt sausage procured from Wm. McMorris, Bay City. Cereal 1.85%. Package or product not marked or stamped.

No. 30014, I-256. Sample of bologna sausage manufactured by Geo. Zimmer, Bay City, and procured from Ed. W. Funnell, Bay City. Cereal 2.73%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30015, I-257. Sample of bologna sausage manufactured and sold by Chas. C. Schultz, Bay City. Cereal 4.98%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30019, I-261. Sample of bologna sausage manufactured by Geo. Zimmer, Bay City, and procured from Theo. Dichtemiller, Bay City. Cereal 2.79%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30020, I-263. Sample of frankfurt sausage procured from Stanley Swantek, Bay City. Cereal 2.49%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30021, I-264. Sample of bologna sausage manufactured and sold by Ignatz Janowicz, Bay City. Cereal 2.50%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30022, I-265. Sample of bologna sausage manufactured and sold by Frank Zielinski, Bay City. Cereal 1.97%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30023, I-266. Sample of bologna sausage manufactured and sold by Wojciechowski Bros., Bay City. Cereal 5.18%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30024, I-267. Sample of bologna sausage manufactured and sold by Valentine Hadynski, Bay City. Cereal 3.58%. Contains an excessive amount of cereal.

No. 30025, I-268. Sample of bologna sausage manufactured and sold by Joseph Budjinski, Bay City. Cereal 4.59%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30026, I-269. Sample of frankfurt sausage procured from Antoni Grawski, Bay City. Cereal 1.50%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30027, I-270. Sample of bologna sausage manufactured and sold by Max Malleck, Bay City. Cereal 2.10%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30042, P-1222. Sample of frankfort sausage procured from Wilbur P. Warner, Paw Paw. Cereal 1.44%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30044, P-1224. Sample of frankfurt sausage procured from Dwight C. Barker, Paw Paw. Cereal 1.49%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30057, B-58. Sample of sausage manufactured and sold by Emil Plath, Rogers. Cereal 1.31%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30059, B-60. Sample of sausage manufactured and sold by Emil Plath, Rogers. Cereal 1.35%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30163, B-63. Sample of sausage procured from the Mancelona Grocery Co., Mancelona. Cereal 2.48%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30212, B-67. Sample of sausage procured from Heth & Stickel, Gladwin. Cereal .65%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30270, U-84. Sample of sausage manufactured by J. Peters, 620 Dix Ave., Detroit, and procured from D. S. Christy, Highland Park. Cereal 11.47%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30271, U-85. Sample of sausage procured from D. S. Christy, Highland Park. Cereal 1.70%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30401, B-93. Sample of sausage manufactured and sold by F. H. Milks, Grayling. Cereal 5.25%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30402, B-94. Sample of sausage manufactured and sold by F. H.

Milks, Grayling. Cereal 4.95%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30461, B-89. Sample of sausage manufactured and sold by C. A. Travis, Frederic. Cereal 7.42%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30462, B-96. Sample of sausage manufactured and sold by Frank Noa, Gaylord. Cereal 2.03%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30463, B-97. Sample of sausage manufactured and sold by Frank Noa, Gaylord. Cereal 2.86%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30471, I-328. Sample of bologna sausage, A. Greilich, Owosso, Manufacturer. Cereal 4.07%. Contains an excessive amount of cereal.

No. 30475, I-317. Sample of bologna sausage manufactured and sold by Jacob A. Barie, Owosso. Cereal 2.41%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30478, I-320. Sample of bologna sausage manufactured and sold by Robert Raatz, Owosso. Cereal 3.51%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30479, I-321. Sample of bologna sausage manufactured and sold by Anton Greilich, Owosso. Cereal 4.52%. Contains an excessive amount of cereal. Casings colored with coal tar dye. Package or product not stamped.

No. 30480, I-322. Sample of bologna sausage manufactured and sold by Fred T. Axford, Owosso. Cereal 3.21%. Contains an excessive amount of cereal. Package or product not marked or stamped. Casings colored with coal tar dye.

No. 30502, B-100. Sample of sausage procured from John W. Agnew, Sault Ste. Marie. Cereal 1.23%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30505, B-103. Sample of sausage manufactured and sold by H. A. Williams, Sault Ste. Marie. Cereal 6.16%. Contains an excessive amount of cereal. Package or product not marked.

No. 30506, B-104. Sample of sausage manufactured and sold by J. H. Moher, Sault Ste. Marie. Cereal 2.50%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30511, B-109. Sample of sausage manufactured and sold by Fred Bye, Sault Ste. Marie. Cereal 4.19%. Contains an excessive amount of cereal. Package or product not marked.

No. 30512, B-110. Sample of sausage manufactured and sold by Fred Bye, Sault Ste. Marie. Cereal 5.60%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30517, F-177. Sample of bologna sausage procured from D. N. Cornell, Thompsonville. Cereal 6.29%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30561, I-331. Sample of bologna sausage manufactured and sold by Frank Noa, Gaylord. Cereal 2.93%. Contains an excessive amount of cereal.

No. 30565, I-335. Sample of bologna sausage manufactured and sold by Allen Schreur, Gaylord. Cereal 3.75%. Contains an excessive amount of cereal.

No. 28152, E-67. Sample of bologna sausage manufactured and sold

by M. G. Schneider, Durand. Sample contains an excessive amount of cereal. Package not stamped.

No. 28160, F-108. Sample of sausage manufactured and sold by A. J. Wibolda, Muskegon. Product contains an excessive amount of cereal. Package not stamped.

No. 28228, I-157. Sample of bologna sausage manufactured and sold by Frank Preuss, Lansing. Product contains an excessive amount of cereal. Package not stamped.

No. 28232, P-838. Sample of sausage manufactured and sold by Harry T. Brown, Battle Creek. Product contains an excessive amount of cereal. Package not stamped.

No. 28234, P-840. Sample of sausage manufactured and sold by H. C. Latta, Battle Creek. Product contains an excessive amount of cereal. Package not stamped.

No. 28237, P-843. Sample of sausage manufactured and sold by E. Freeland, Battle Creek. Product contains added sulphurous acid or salts thereof.

No. 28242, P-847. Sample of sausage manufactured and sold by E. Freeland, Battle Creek. Product contains added sulphurous acid or salts thereof.

No. 28266, P-861. Sample of sausage manufactured and sold by Eugene Freeland, Battle Creek. Product contains added sulphurous acid or salts thereof.

No. 28267, P-862. Sample of sausage manufactured and sold by Eugene Freeland, Battle Creek. Sample contains a small amount of sulphurous acid.

No. 28298, P-868. Sample of sausage manufactured and sold by Talmage & Bauer, Albion. Product contains a small amount of sulphurous acid or salts thereof.

No. 30272, U-86. Sample of sausage manufactured and sold by M. Kohn & Son, Highland Park. Cereal 1.63%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30274, U-88. Sample of sausage manufactured and sold by Mr. Kohn & Son, Highland Park. Cereal 1.18%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30310, B-78. Sample of sausage manufactured and sold by Peter Larson, Cadillac. Casings artificially colored with coal tar dye.

No. 30311, B-79. Sample of sausage manufactured and sold by Curtis & Grant, Cadillac. Cereal 3.27%. Contains an excessive amount of cereal. Package or product not marked or stamped to indicate presence of cereal.

No. 30325, I-296. Sample of pork sausage manufactured and sold by Curtis & Grant, Cadillac. Cereal 3.27%. Contains an excessive amount of cereal.

No. 30326, I-297. Sample of pork sausage manufactured and sold by M. Boersina & Sons, Cadillac. Cereal 4.71%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30327, I-298. Sample of frankfurt sausage procured from M. Boersina & Sons, Cadillac. Cereal 2.17%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30328, I-299. Sample of bologna and frankfurt sausage manufactured and sold by Harry H. Kingsly, Cadillac. Cereal 6.70%. Contains an excessive amount of cereal.

No. 30329, I-300. Sample of bologna sausage procured from McCoy & Marcus, Cadillac. Cereal 2.02%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30338, I-309. Sample of pork sausage manufactured and sold by Burton & Rupers, Cadillac. Cereal 1.90%. Package or product not marked or stamped to indicate the presence of cereal.

No. 30359, U-89. Sample of pork sausage manufactured and sold by J. A. Peters, 620 Dix Ave., Detroit. Cereal 5.47%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30360, U-90. Sample of sausage manufactured and sold by J. A. Peters, 620 Dix Ave., Detroit. Cereal 11.28%. Contains an excessive amount of cereal. Package or product not marked or stamped to indicate the presence of cereal.

No. 30363, F-173. Sample of sausage procured from H. R. Fowler, Charlevoix. Cereal 4.66%. Contains an excessive amount of cereal. Package or product not marked or stamped.

No. 30364, F-174. Sample of sausage procured from Martin Block, Charlevoix. Cereal 1.44%. Package or product not marked or stamped to indicate presence of cereal.

No. 30394, B-86. Sample of sausage manufactured by Smith & Lake, Petoskey, and procured from Mancelona Grocery Co., Mancelona. Cereal 3.14%. Contains an excessive amount of cereal.

No. 30397, B-89. Sample of sausage manufactured and sold by C. A. Travis, Frederick. Cereal 4.95%. Contains an excessive amount of cereal. Package not marked or stamped.

SOFT DRINKS.

No. 27592, I-75. Sample of ginger ale manufactured by James Vernor, Detroit, and procured from Walter Nissly, Saline. Burnt match, pieces of paper and other sediment in bottom of bottle.

No. 30245, U-72. Sample of pop manufactured by McBride, Earl, Pollard Co., Detroit. Saccharin present.

No. 30246, U-73. Sample of pop manufactured by McBride, Earl, Pollard Co., Detroit. Saccharin present.

No. 30262, U-75. Sample of pop manufactured by McBride, Earl Pollard Co., Detroit. Saccharin present.

No. 30263, U-76. Sample of pop manufactured by McBride, Earl, Pollard Co., Detroit. Saccharin present.

No. 30264, U-77. Sample of pop manufactured by McBride, Earl, Pollard Co., Detroit. Saccharin present.

SPINACH.

No. 29294. Unofficial sample of spinach. Sample contains particles of dirt, dead grass, straw and shavings.

SUGAR.

You will notice that we examined a sample of sugar which was manufactured by H. W. Hart of Nashville, Michigan. This sample was declared adulterated and misbranded for the reason that the label "Michigan Sugar" means according to trade custom Maple Sugar, for which Michigan is well known, whereas in truth and fact the product itself consisted wholly or in part of cane or beet sugar. This method of label-

ing a product of this nature, it seems to me is deceptive and misleading. The product itself is a brown color, very near that of maple sugar, and when called "Michigan Sugar" it at once infers that it is maple sugar.

No. 28163, F-111. Sample of sugar procured from the Red Front Grocery Co., Muskegon. Sample has bad odor probably derived from storage.

No. 29615, P-1199. Sample of "Pure Michigan Sugar" manufactured by H. W. Hart, Nashville, and procured from E. C. Carrington, Albion. Adulterated and misbranded.

SYRUPS.

No. 27654, D-189. Sample of syrup sold by Hout & Rittenhouse, Cheboygan, and procured from Harry Graham, Cheboygan. No label on bottle.

No. 27691, G-922. Sample of Belmont Brand Syrup manufactured by the Chicago Concentrating Co., Chicago, and procured from A. Brush, Marquette. Misbranded in that label does not give percentage of ingredients other than maple.

No. 27851, U-27. Sample of Strawberry Syrup manufactured by Feigenson Bros., Detroit. An imitation strawberry syrup artificially colored. Not properly labeled.

No. 27949, G-930. Sample of Crystal White Karo Syrup handled by Steele, Wedeles Co., Chicago, Ill., and procured from Quayle & Goodney, Stambaugh. Misbranded.

No. 27950, G-931. Sample of Karo Syrup handled by Steel, Wedeles Co., Chicago, Ill., and procured from Quayle & Goodney, Stambaugh. Misbranded.

No. 28115, I-146. Sample of Northern Ohio Brand Syrup handled by the Feilbach Company, Toledo, Ohio, and procured from J. F. Wagner & Co., Ann Arbor. Manufacturer's address not stated on the label. Misbranded.

No. 28161, F-109. Sample of "Alexander's Syrup" manufactured by the Alexander Co., Cincinnati, Ohio, and sold by the Moulton Grocer Co., Muskegon. Misbranded.

No. 28571, P-922. Sample of "Canada Woods" Syrup manufactured by the Clarence A. Crane Co., Warren, Ohio, and handled by the Northrup, Robertson & Carrier Co., Lansing. Misbranded. Does not state percentage of ingredients other than maple.

No. 29391, I-222. Sample of Hubinger White Syrup manufactured by J. C. Hubinger, New Haven, Conn., sold by Harrit & Hewitt, Toledo, and procured from A. L. Ely, Litchfield. Misbranded.

No. 29919, B-50. Sample of maple sugar procured from Klooster & Son, Ellsworth. Sample fermented otherwise pure syrup. Contains an excessive amount of moisture. Misbranded.

No. 30058, B-59. Sample of maple sap syrup manufactured by the Bay State Maple Syrup Co., Boston, Mass. Net weight not stated on the label.

No. 30071, U-67. Sample of Nabob Syrup manufactured by Francis H. Leggett, New York. Misbranded.

No. 30395, B-87. Sample of White Syrup, manufactured by J. C. Hubinger, Keokuk, Ia. Misbranded.

No. 30464, B-98. Sample of White Goose Syrup manufactured by the Kellogg Mfg. Co., Keokuk, Ia. Not properly labeled.

No. 30503, V-101. Sample of maple syrup procured from Paulantos Bros., Sault Ste. Marie. Not pure maple syrup.

No. 30546, E-100. Sample of Great Mountain Syrup manufactured by the Towle Maple Products Co., St. Johnsbury, Vt. Misbranded.

TOMATO PULP.

No. 28025, P-795. Sample of tomato pulp procured from the Monroe Canning & Packing Co., Monroe. Unwholesome.

No. 28026, P-796. Sample of tomato pulp procured from the Monroe Canning & Packing Co., Monroe. Unwholesome.

No. 28028, P-798. Sample of tomato pulp procured from the Monroe Canning & Packing Co., Monroe. Unwholesome.

No. 28030, P-800. Sample of tomato pulp procured from the Monroe Canning & Packing Co., Monroe. Unwholesome.

TURPENTINE.

This Department is charged with the enforcement of the turpentine law. Like the linseed oils the majority of the turpentine examined contained mineral oil as an adulterant and came from Cleveland, Ohio. Of the eight samples analyzed, six of them were adulterated.

No. 27473, G-901. Sample of turpentine manufactured by the Southern States Turpentine Co., Cleveland, Ohio, and procured from J. P. Peterman, Kearsarge. Not a pure turpentine, contains 19.8% mineral oil.

No. 27594, G-919. Sample of turpentine manufactured by the Southern States Turpentine Co., Cleveland, Ohio, and procured from J. Vivian, Jr. & Company, Laurium. Sample contains 12.8% mineral oil.

No. 29336. Unofficial sample of turpentine. Sample contains about 20% of a petroleum product.

No. 29530. Unofficial sample of turpentine. Adulterated with about 50% mineral oil.

No. 29646. Unofficial sample of turpentine. Sample is highly adulterated.

No. 30549. Unofficial sample of turpentine. Contains about 10% mineral oil.

VINEGAR.

Thirty-one samples of vinegar were examined. Six of these were found to be adulterated or misbranded. Michigan is one of the largest apple growing states, so naturally considerable vinegar is manufactured here. The old law required that apple vinegar should contain not less than 1.75% total solids, 4% acetic acid and .25% ash. When vinegar was made by the old process, that is by storing it in barrels and allowing it to go over into vinegar as it aged, this standard would hold good. However, with the new process, called the quick process of vinegar making, the standards were often a hardship. Therefore, at the last session of the legislature, the Act was amended, the standards were removed from the body of the law, with the exception of the 4% acid standard, and various kinds of vinegar defined. Competition in the vinegar industry is very keen. Consequently, there is great temptation to adulterate. This is usually accomplished by first reducing a vinegar of high

acid strength with water, then adding distilled vinegar to bring up the acidity, finally adding more substance such as boiled cider or apple jelly and a mineral substance to bring the solids and ash back to that required by law. The final product often contains only 50% pure cider vinegar, while the rest is composed of the above materials. The whole is then branded "Pure Cider Vinegar" and sold to the unsuspecting public.

No. 27743, I-97. Sample of cider vinegar manufactured by D. A. Lockhart, Waldron, and procured from W. E. Cockin, Waldron. Cider vinegar below standard in acidity.

No. 27907, G-927. Sample of wine vinegar manufactured by Santori & Toschana, South Range, and procured from Raffaello Mugniani, Hancock. Should be labeled distilled vinegar. Below standard in acidity.

No. 28090, F-105. Sample of "DeLuxe" cider vinegar manufactured by the Hume Grocer Co., Muskegon. Sample is not pure fermented apple vinegar as labeled. Misbranded.

No. 28933. Unofficial sample of vinegar. Sample is low in acidity.

No. 29056. Unofficial sample of vinegar. Low in acidity.

No. 29504, B-12. Sample of vinegar procured from F. B. Long, Sand Lake. Acidity 1.93%. Low in acidity.

WHITE LEAD.

No. 28113, Unofficial. Sample of white lead. No white lead present. Composed of barytes, lead sulphate and zinc oxide.

CONCENTRATED COMMERCIAL FEEDING STUFFS.

During the year 217 commercial feeding stuffs were licensed by the department; 108 of these samples were submitted to the laboratory for analysis and are herewith reported on, the tabulated statement following being a correct statement of all the official analyses made. Many unofficial samples of various kinds of feeds submitted by individuals from different sections of the state were analyzed during the year. These samples do not, however, appear in the tabulated report.

The law requires that the statement of the chemical composition of the feed shall be made on the label and in the following terms,—Crude Protein, Crude Fibre, Nitrogen-free extract and Ether Extract. In analyses therefor, there are reported only these four constituents. It is, however, customary to determine in addition to these four the percentage of water and mineral matter in a given sample. As these terms appear continually in our reports, it may be well to describe briefly the meaning of each and something about the method by which they are determined in the laboratory.

Water: Everything contains a certain amount of water. Fresh pasture grass contains about 80% or four-fifths water, while dent corn contains about 10.6% and red clover hay about 15.3% water. Commercial feeding stuffs, as ordinarily found on the market, contain about 5%-10% of water. To determine the amount of water in a feeding stuff, the chemist places a definite weighed portion of the fully ground material in a weighed dish. It is then dried at 212° for several hours and again weighed. The loss of weight represents the amount of water in the sample.

Ash: The ash of a feeding stuff is the amount of mineral matter contained in it. Thus in 100 lbs. of fresh pasture grass there is two pounds

of ash. Red clover hay contains about 6.2 lbs. of ash in 100 pounds of hay. The amount of ash is determined by burning the sample that is left after the water is determined, again weighing the residue which is calculated and reported as the percent of ash in the sample.

Crude Protein: The Protein content of a feeding stuff is the most important constituent and the most expensive to buy. Protein is that part of a feeding-stuff that goes to build up the muscular tissues of the body. The process of determining the protein is too complicated to present here. The nitrogen content is first found, which is then multiplied by 6.25 to get the crude protein, for the reason that about 16% of the plant protein is nitrogen ($100/16=6.25$). Cottonseed products are high in protein. One hundred pounds of cottonseed meal contains about 41 pounds of protein. Dent corn contains about 10 pounds of protein per 100 pounds, while red clover hay contains about 12 pounds per 100. Pasture grass contains only about 3.5 pounds of crude protein in 100 pounds.

Crude Fibre: This part of the feeding stuff consists mostly of cellulose and is the woody portion of the feed. It is determined by boiling a sample of the feed first with weak acid and then with a weak alkali washing out the dissolved matter. Indian corn contains about 2.2% of fibre, while clover hay contains about 25%.

Ether Extract: The ether extract represents the amount of crude fat in a feeding stuff. It is sometimes reported as such. In the case of seeds it is nearly all true fat, while in the case of leaves, stems, etc., it consists of chlorophyll, fat, wax, etc. It is determined by treating a weighed portion of the finely divided feed with ether. The ether dissolves only the fats, waxes, etc., contained in the feed.

Fat: The amount of fat in a feeding stuff is important, as it is the fats along with the carbohydrates that produce energy and heat in the animal body. Corn contains about 5 lbs. of fat per 100 lbs.; alfalfa contains about 2.1 lbs. to the hundred, while fresh pasture grass contains about .8 lbs. of crude fat per 100 lbs.

Nitrogen-free Extract: This consists of the sugars, starches, pentoses, etc., of the plant. It is determined by difference and not by actual analysis. The total of all other constituents, viz.: water, ash, protein, fat, fibre, subtracted from 100, gives the amount of nitrogen-free extract in a sample.

Often one sees the term, carbohydrates, in the analysis of a feeding stuff, as some state laws require this designation. The nitrogen-free extract and the crude fibre together constitute the carbohydrates.

It often happens that under the law a certain feed must be classified in order that we may know whether it is subject to a license or not. That this may be properly done, I herewith attach a compilation of definitions of feeding stuffs as adopted by the Association of Feed Control officials of the United States.

Meal is the clean, sound, ground product of the entire grain, cereal or seed which it purports to represent.

Chop is a ground or chop feed composed of one or more different cereals or by-products thereof. If it bears a name descriptive of the kind of cereals, it must be made exclusively of the entire grains of those cereals.

Screenings are the smaller imperfect grains, weed seeds and other foreign material having feeding value, separated in cleaning the grain.

Flax Plant By-Product is that portion of the flax plant remaining

after the separation of the seed, the baste fibre and a portion of the shives, and consists of flax shives, flax pods, broken and immature flax seeds and the corticle tissue of the stem.

Alfalfa Meal is the entire alfalfa hay ground and does not contain an admixture of ground alfalfa straw or other foreign materials.

Linseed Meal is the ground residue after extraction of part of the oil from ground flaxseed.

Blood Meal is ground dried blood.

Meat Scrap and *Meat Meal* are the ground residues from animal tissue exclusive of hoof and bone. If they contain any considerable amount of bone, they must be designated *Meat and Bone Scrap*, or *Meat and Bone Meal*. If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

Digester Tankage is the residue from animal tissues exclusive of hoof and horn specially prepared for feeding purposes by tanking under live steam, drying under high heat, and suitable grinding. If it contains any considerable amount of bone, it must be designated *Digester Meat and Bone Tankage*.

Cracklings are the residue after partially extracting the fats and oils from the animal tissue. If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

Brewers' Dried Grains are the properly dried residue from cereals obtained in the manufacture of beer.

Distillers' Dried Grains are the dried residue from cereals obtained in the manufacture of alcohol and distilled liquors. The product shall bear the designation indicating the cereal predominating.

Malt Sprouts are the sprouts of the barley grain. If the sprouts are derived from any other malted cereal, the source must be designated.

Buckwheat Shorts or *Buckwheat Middlings* are that portion of the buckwheat grain immediately inside of the hull after separation from the flour.

Rice Bran is the cuticle beneath the hull.

Rice Hulls are the outer chaffy coverings of the rice grain.

Rice Polish is the finely powdered material obtained in polishing the kernel.

Oat Groats are the kernels of the oat berry with the hulls removed.

Oat Hulls are the outer chaffy coverings of the oat grain.

Oat Middlings, are the floury portion of the oat groat obtained in the milling of rolled oats.

Oat Shorts are the covering of the oat grain lying immediately inside the hull, being a fuzzy material carrying with it considerable portions of the fine floury part of the groat obtained in the milling of rolled oats.

Clipped Oat By-Product (term oat clippings not recognized) is the resultant by-product in the manufacture of clipped oats. It may contain light, chaffy material broken from the ends of the hulls, empty hulls, light, immature oats and dust. It must not contain an excessive amount of oat hulls.

Corn Bran is the outer coating of the corn kernel.

Corn Feed Meal is the sifting obtained in the manufacture of cracked corn and table meal made from the whole grain.

Corn Germ Meal is a product in the manufacture of starch, glucose and other corn-products and is the germ layer from which a part of the corn oil has been extracted.

Grits are the hard, flinty portions of Indian Corn without hulls and germs.

Hominy Meal, Hominy Feed or Hominy Chop is a mixture of the bran coating, the germ and a part of the starchy portion of the corn kernel obtained in the manufacture of hominy grits for human consumption.

Corn Gluten Meal is that part of commercial shelled corn that remains after the separation of the larger part of the starch, the germ and the bran by the processes employed in the manufacture of corn starch and glucose. It may or may not contain corn solubles.

Corn Gluten Feed is that portion of commercial shelled corn that remains after the separation of the larger part of the starch and the germ by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

Cottonseed Meal is a product of the cottonseed only, composed principally of the kernel with such portion of the hull as is necessary in the manufacture of oil; provided that nothing shall be recognized as cottonseed meal that does not conform to the foregoing definition and that does not contain at least 37% of protein.

Choice Cottonseed Meal must be finely ground, not necessarily bolted, perfectly sound and sweet in odor, yellow, free from excess of lint, and must contain at least 41% protein.

Prime Cottonseed Meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, yellow, not brown or reddish, free from excess of lint, and must contain at least 38.6% protein.

Good Cottonseed Meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color and must contain at least 37% of protein.

Cottonseed Feed is a mixture of cottonseed meal and cottonseed hulls, containing less than 37% of protein.

Cold Pressed Cottonseed is the product resulting from subjecting the whole undecorticated cottonseed to the cold pressure process for the extraction of oil, and includes the entire ground cottonseed less the oil extracted.

Wheat Bran is the coarse outer coatings of the wheat berry obtained in the usual commercial milling process from wheat that has been cleaned and scoured.

Shorts or Standard Middlings are the fine particles of the outer and inner bran separated from bran and white middlings.

Wheat White Middlings or White Middlings are that part of the offal of wheat intermediate between shorts or standard middlings and red dog.

Shipstuff or Wheat Mixed Feed is a mixture of the products other than the flour obtained from the milling of the wheat berry.

Red Dog is a low grade wheat flour containing the finer particles of bran.

Wheat Bran with Mill Run Screenings is pure wheat bran plus the screenings which were separated from the wheat used in preparing said bran.

Wheat Bran with Screenings not Exceeding Mill Run, is either wheat bran with the whole mill run of screenings or wheat bran with a portion of the mill run of screenings, provided that such portion is not an inferior portion thereof.

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Sheffield-King Milling Co., Minneapolis, Minn.		
No. 1793.	"Fairbow" Shorts	169
Sherwin-Williams Co., Cleveland, Ohio.		
No. 1673.	Sherwin-Williams Linseed Oil Meal	162
Sprague-Warner & Co., Chicago, Ill.		
No. 1654.	Cero Brand Poultry Feed	161
No. 1655.	Chico Brand Chick Feed	161
Spratts' Patent (America) Ltd. Newark, N. J.		
No. 1676.	Poultry Food No. 3	162
No. 1677.	Ground Meal	162
Standard Grocer & Milling Co., Holland, Mich.		
No. 1822.	Standard Scratch Feed	171
Star of the West Milling Co., Frankenmuth, Mich.		
No. 1678.	"Special Feed"	162
David Stott, Detroit, Mich.		
No. 1624.	Winner Chop Feed	159
F. J. Stuart, Pontiac, Mich.		
No. 1737.	Stuart's Mixed Chicken Feed	166
Sulzberger & Sons Co., Chicago, Ill.		
No. 1817.	Sulzberger's High Protein Tankage	170
Swift & Co., Chicago, Ill.		
No. 1609.	Swift's Digester Tankage	158
No. 1610.	Swift's Meat Scraps	158
No. 1611.	Swift's Meat Meal	158
No. 1612.	Swift's Blood Meal	158
Tennessee Fibre Co., Memphis, Tenn.		
No. 1736.	Creamo Brand Cotton Seed Feed	166
L. Teweles & Co., Milwaukee, Wis.		
No. 1751.	Badger Brand Chicken Feed	167
Thunder Bay Milling Co., Alpena, Mich.		
No. 1636.	Bradford's Coarse Corn Meal	160
Toledo Seed & Oil Co., Toledo, Ohio.		
No. 1632.	Major Brand Concentrated Feed	159
The Ublko Milling Co., Cincinnati, Ohio.		
No. 1712.	Union Grains (Ublko) Biles Ready Rations	164
No. 1741.	Fourex (XXXX) Distillers Dried Grains	166
United States Frumentum Co., Detroit, Mich.		
No. 1631.	Frumentum Hominy Feed	159
Valley City Milling Co., Grand Rapids, Mich.		
No. 1756.	Farmers' Favorite Street Car Feed	167
No. 1757.	Farmers' Favorite Coarse Corn Meal	167
No. 1758.	Farmers' Favorite No. 1 Feed	167
No. 1759.	Farmers' Favorite Cow Feed	167

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Watson-Higgins Milling Co., Grand Rapids, Mich.		
No. 1818.	Hoyle Scratch Feed.....	170
No. 1819.	Fine Corn Meal.....	170
Joseph Wellmans Sons, Port Huron, Mich.		
No. 1735.	Mixed Chicken Feed.....	166
West Branch Mfg. Co., West Branch, Mich.		
No. 1706.	Street Car Feed.....	164
Western Grain Products Co., Hammond, Ind.		
No. 1627.	Hammond Horse Feed.....	159
No. 1628.	Hammond Dairy Feed.....	158
Carl C. Wright, Owosso, Mich.		
No. 1720.	Occident Chick Feed.....	165
No. 1721.	Wright's Mixture.....	165
Wykes & Co., Grand Rapids, Mich.		
No. 1813.	Y X Corn Meal.....	170
No. 1814.	Y X Brand Choice Cottonseed Meal.....	170

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)

Licence No.	Manufacturer and address.	Brand.	Guaranteed Found	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen—Free extract. Per cent.	Ether extract. Per cent.
1601	The Beck Cereal Co., Detroit, Mich.	Royal Hominy Feed	Guaranteed Found	10.00	4.00		5.39
1602	The Beck Cereal Co., Detroit, Mich.	Royal Chop Feed	Guaranteed Found	8.31 8.76	5.81		5.10
1603	The Huron Milling Co., Harbor Beach, Mich.	Jenks Mixed Feed	Guaranteed Found	12.00 13.83	5.55 7.20	68.32 59.67	4.60 4.60
1604	The Huron Milling Co., Harbor Beach, Mich.	Jenks Gluten Feed	Guaranteed Found	22.00 20.30	8.00 7.20		3.00 3.12
1605	Champion Feed Milling Co., Lyons, Iowa	Champion Molasses Feed Compound	Guaranteed Found	11.00	8.00	59.68	
1606	Menominee River Sugar Co., Menominee, Mich.	Sugar Beet Molasses	Guaranteed Found	9.36		53.56	
1607	Lazo Cake Meal Co., Chicago, Ill.	Old Process Lazo Cake Meal	Guaranteed Found	25.00 23.38	12.00 8.75	40.00 44.87	6.00 8.80
1608	McMorran Milling Co., Port Huron, Mich.	Protein Feed	Guaranteed Found	16.45 22.23	3.63 6.05	66.82 60.72	3.25 2.50
1609	Swift & Co., Chicago, Ill.	Swift's Digester Tankage	Guaranteed Found	60.00	3.00		8.00
1610	Swift & Co., Chicago, Ill.	Swift's Meat Scraps	Guaranteed Found	50.00 52.94			8.00 13.20
1611	Swift & Co., Chicago, Ill.	Swift's Meat Meal	Guaranteed Found	46.00	3.00		6.00
1612	Swift & Co., Chicago, Ill.	Swift's Blood Meal	Guaranteed Found	87.00			
1613	Roach & Seiber Co., Houghton, Mich.	Roscoe Scratch Feed	Guaranteed Found	10.59	2.40	65.46	3.25
1614	Amendt Milling Co., Monroe, Mich.	AMCO Pigeon Feed	Guaranteed Found	10.00 10.24	5.00 2.05	58.00 74.39	2.50 2.57
1615	Amendt Milling Co., Monroe, Mich.	AMCO Alfalfa Meal	Guaranteed Found	13.74	24.12	38.04	2.15

1616	American Cotton Hull & Fiber Co., Memphis, Tenn.	Cyclone Feed Meal	Guaranteed Found	20.00	23.00	38.00	3.00
1617	Jon. Schlitz Brewing Co., Milwaukee, Wis.	Schlitz Purity Dried Grains	Guaranteed Found	24.00 27.04	16.00 15.38	40.00 42.27	6.00 5.28
1618	The Larowe Milling Co., Detroit, Mich.	Larowe-feed	Guaranteed Found	19.00 18.11	14.00 12.88	50.00 52.89	3.00 3.65
1619	Grand Rapids Brewing Co., Grand Rapids, Mich.	Dried Brewers Grains	Guaranteed Found	25.37	13.50	37.78	7.50
1620	Hankey Milling Co., Potosky, Mich.	"Bran"	Guaranteed Found	13.56 15.66	9.87 10.17	57.68 56.92	2.75 4.20
1621	Hankey Milling Co., Potosky, Mich.	"Corn Meal"	Guaranteed Found	9.71 9.98	3.97 3.08	70.24 70.14	5.82 7.25
1622	American Malting Co., Detroit, Mich.	Chicken Feed	Guaranteed Found	12.95	4.90	63.94	3.00
1623	F. W. Brode & Co., Memphis, Tenn.	Owl Brand Cotton Seed Meal	Guaranteed Found	41.00 40.86	10.00 5.00	31.62	6.00 8.82
1624	David Stott, Detroit, Mich.	Winner Chop Feed	Guaranteed Found	9.00 9.98	10.00 6.00	70.00 68.30	5.00 5.97
1625	J. W. Barwell, Waukegan, Ill.	Blatchford's Call Meal	Guaranteed Found	24.00 23.89	6.00 2.60	55.41	5.00 5.10
1626	Evans Milling Co., Indianapolis, Ind.	Evans Hominy Feed	Guaranteed Found	10.00	7.00		7.50
1627	Western Grain Products Co., Hammond, Ind.	Hammond Horse Feed	Guaranteed Found	12.00 17.67	12.00 9.95	48.00 53.35	2.80 4.73
1628	Western Grain Products Co., Hammond, Ind.	Hammond Dairy Feed	Guaranteed Found	16.50 17.94	11.00 12.10	48.00 49.51	3.50 4.65
1629	Humphreys-Godwin Co., Memphis, Tenn.	Ditie Brand Cottonseed Meal	Guaranteed Found	38.62 38.68	12.00 11.25	24.00 29.33	6.00 7.74
1630	S. P. Davis, Little Rock, Ark.	Good Luck Brand Cottonseed Meal	Guaranteed Found	41.00 42.53	10.50 8.30	6.50 27.50	8.27
1631	United States Frumentum Co., Detroit, Mich.	"Frumentum Hominy Feed"	Guaranteed Found	9.50 11.20	7.00 3.70	63.00 64.59	7.30 9.18
1632	Toledo Seed & Oil Co., Toledo, Ohio	Major Brand Concentrated Feed	Guaranteed Found	30.00	10.00		
1633	King Milling Co., Lowell, Mich.	King Corn and Oat Feed	Guaranteed Found	10.06 11.64	5.54 1.96	65.09 69.11	6.63 6.65

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Continued.

License No.	Manufacturer and address.	Brand.		Protein, Per cent.	Crude fiber, Per cent.	Nitrogen—Free extract, Per cent.	Ether extract, Per cent.
1634	King Milling Co., Lowell, Mich.	King Corn Meal	Guaranteed Found	9.54 11.55	3.60 3.80	66.99 65.77	7.39 8.33
1635	Buckeye Cotton Oil Co., Cincinnati, Ohio.	"Buckeye" Cottonseed Meal	Guaranteed Found	38.92	12.00	32.00	6.50
1636	Thunder Bay Milling Co., Alpena, Mich.	Bradford's Coarse Corn Meal	Guaranteed Found	7.87	1.85	75.70	2.70
1637	Corn Products Refining Co., New York.	Buffalo Gluten Feed	Guaranteed Found	23.00 24.24	8.50 9.10	50.00 55.96	2.00 3.85
1638	Corn Products Refining Co., New York.	Diamond Gluten Meal	Guaranteed Found	40.00 44.27	4.00 1.70	50.00 44.91	1.50 1.60
1639	Corn Products Refining Co., New York.	Diamond Hog Meal	Guaranteed Found	18.00 19.95	*13.00 14.70	50.00 43.07	6.50 6.83
1640	Chapin & Co. for Ajax Milling & Feed Co., Hammond, Ind.	Ajax Flakes	Guaranteed Found	30.00 29.75	14.00 12.10	30.00 37.93	11.00 10.55
1641	Chapin & Co., Hammond, Ind.	Unicorn Dairy Ration	Guaranteed Found	26.00 25.81	10.00 10.10	50.00 48.09	5.50 5.85
1642	Quaker Oats Co., Chicago, Ill.	Schumacher Stock Feed	Guaranteed Found	10.00	10.00	60.00	3.25
1643	Quaker Oats Co., Chicago, Ill.	Schumacher Little Chick Feed	Guaranteed Found	10.00 11.20	5.00 2.95	60.00 67.15	2.50 3.45
1644	Quaker Oats Co., Chicago, Ill.	Victor Feed	Guaranteed Found	8.00	12.00	60.00	3.00
1645	Quaker Oats Co., Chicago, Ill.	Old Tavern Scratch Feed	Guaranteed Found	10.00	5.00	60.00	2.50
1646	Quaker Oats Co., Chicago, Ill.	Old Tavern Chick Feed	Guaranteed Found	10.00	5.00	60.00	2.50
1647	Quaker Oats Co., Chicago, Ill.	American Hen Scratching Grains	Guaranteed Found	10.00 12.16	5.00 2.40	60.00 69.61	2.50 3.28
1648	Quaker Oats Co., Chicago, Ill.	Quaker Molasses Dairy Feed	Guaranteed Found	16.00	14.50	50.00	4.50

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1649	Quaker Oats Co., Chicago, Ill.	Schumacher Scratching Grains	Guaranteed Found	10.00	5.00	60.00	2.50
1650	Quaker Oats Co., Chicago, Ill.	Schumacher Calf Meal	Guaranteed Found	19.00	3.00	54.00	8.00
1651	National Food Co., Fond du Lac, Wis.	No Milk Calf Food	Guaranteed Found	17.25	6.00		
1652	Cheboygan Flour Mill Co., Cheboygan, Mich.	Highland Scratch Feed	Guaranteed Found	10.59	4.78	68.87	3.27
1653	Cheboygan Flour Mill Co., Cheboygan, Mich.	Corn Germ Meal	Guaranteed Found	9.27	3.02	69.48	6.62
1654	Sprague-Warner & Co., Chicago, Ill. (Quaker Oats Co., Chicago, Ill., Mfrs.)	Cero Brand Poultry Feed	Guaranteed Found	10.00	5.00	60.00	2.50
1655	Sprague-Warner & Co., Chicago, Ill. (Quaker Oats Co., Chicago, Ill., Mfrs.)	Chico Brand Chick Feed	Guaranteed Found	10.00	5.00	60.00	2.50
1656	Clinton Sugar Refining Co., Clinton, Iowa	Clinton Corn Gluten Feed	Guaranteed Found	23.00 25.55	8.00 6.55	55.00 55.66	3.00 3.04
1657	Douglas & Co., Cedar Rapids, Iowa	Douglas Gluten Feed	Guaranteed Found	23.00	8.00	58.00	2.00
1658	McLaughlin-Ward & Co., Jackson, Mich.	Crown Brand Scratch Feed	Guaranteed Found	8.75	2.10	66.98	2.97
1659	Amendt Milling Co., Monroe, Mich.	AMCO Scratch Grain	Guaranteed Found	9.54 11.90	4.30 1.60	68.51 69.75	2.40 2.35
1660	Amendt Milling Co., Monroe, Mich.	AMCO Chick Feed	Guaranteed Found	9.19 9.80	4.00 2.12	69.75 73.44	2.50 2.45
1661	Amendt Milling Co., Monroe, Mich.	AMCO No. 2 Chop	Guaranteed Found	7.87 9.98	10.95 6.45	64.62 70.13	3.92 3.72
1662	The Metzger Seed & Oil Co., Toledo, Ohio	Old Process Oil Meal	Guaranteed Found	30.00 30.71	10.00 2.50		5.00 7.68
1663	Allegan Milling Co., Allegan, Mich.	Mixed Poultry Feed	Guaranteed Found	9.98	3.98	70.45	3.75
1664	A. L. Hibbard, Sturgis, Mich.	No. 1 Chop	Guaranteed Found	8.84	4.75	71.05	4.30
1665	Ferdinand Becker, Grand Rapids, Mich.	"Corn Meal"	Guaranteed Found	7.79	1.55	67.41	3.75

*Plus carbon.

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Continued.

Lot No.	Manufacturer and address.	Brand.	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1666	Postum Cereal Co., Ltd., Battle Creek, Mich.	G. N. Feeding Stuff	9.00 12.86	2.50 1.45	63.00 77.26	1.00 1.78
1667	Postum Cereal Co., Ltd., Battle Creek, Mich.	Cereal Feeding Stuff	11.00 12.25	18.00 10.90	52.00 64.01	1.75 2.42
1668	Postum Cereal Co., Ltd., Battle Creek, Mich.	Barley Bran	6.00 13.65	32.00 15.40	45.00 54.62	1.25 2.80
1669	Postum Cereal Co., Ltd., Battle Creek, Mich.	C X X Feed	15.00 17.50	24.00 15.85	42.00 55.09	2.00 2.56
1670	Postum Cereal Co., Ltd., Battle Creek, Mich.	Special Feeding Stuff	9.00 10.32	.75 .87	75.00 77.91	.50 .59
1671	Postum Cereal Co., Ltd., Battle Creek, Mich.	Flaked Corn Feed	8.00 8.14	5.00 1.07	70.00 83.89	1.00 1.10
1672	H. J. Elliott, Pontiac, Mich.	Plymouth Rock Scratch Feed	10.32	3.85	70.13	3.61
1673	The Sherwin-Williams Co., Cleveland, Ohio.	Linseed Oil Meal	33.00	8.00		6.00
1674	American Linseed Co., New York.	Cleveland Linseed Oil Meal	36.00 38.33	9.00 6.20	42.00 38.32	2.00 3.00
1675	American Linseed Co., New York.	Old Process Linseed Oil Meal	34.00 33.78	9.00 7.25	42.00 38.32	6.00 7.96
1676	Spratt's Patent (America), Ltd., Newark, N. J.	Poultry Food No. 3	20.00 20.48	2.00 1.95	60.29	2.50 7.06
1677	Spratt's Patent, Ltd., Newark, N. J.	Ground Meal	43.00 47.25	2.00 2.00		10.00 11.45
1678	Star of the West Milling Co., Frankenthuth, Mich.	"Special Feed"	8.57	8.97	67.27	3.56
1679	Commercial Milling Co., Detroit, Mich.	Coarse Corn Feed Meal	8.50	2.00		
1680	Commercial Milling Co., Detroit, Mich.	Henkel's Coarse Brown Feed	15.00 16.89	8.00 6.00	69.73	4.00 4.23

1681	Commercial Milling Co., Detroit, Mich.	Henkel's Chop Feed.	Guaranteed Found.	8.00 8.06	8.00 6.00	66.45	5.00 4.85
1682	Commercial Milling Co., Detroit, Mich.	Henkel's Fine White Feed.	Guaranteed Found.	15.00	4.00		3.50
1683	Bad Axe Grain Co., Bad Axe, Mich.	Egg Brand Poultry Feed.	Guaranteed Found.	9.01	3.80	68.97	3.22
1684	Bad Axe Grain Co., Bad Axe, Mich.	Axe Brand Ground Feed.	Guaranteed Found.	9.61	6.17	66.37	3.25
1685	Portland Milling Co., Portland, Mich.	Puritas Corn and Oat Feed.	Guaranteed Found.	10.41	6.38	68.43	4.23
1686	Portland Milling Co., Portland, Mich.	Champion Mixed Feed.	Guaranteed Found.	13.56	8.47	69.54	3.58
1687	Ralston Purina Co., St. Louis, Mo.	Purina Molasses Feed.	Guaranteed Found.	9.00 10.06	12.00 9.84	59.00 59.74	2.56
1688	Albert Dickinson Co., Chicago, Ill.	Globe Scratch Feed.	Guaranteed Found.	10.00 10.13	5.00 3.55	60.00 66.92	2.50 3.90
1689	Albert Dickinson Co., Chicago, Ill.	Pine Tree Scratch Feed.	Guaranteed Found.	10.00 9.28	5.00 1.80	60.00 72.34	2.50 2.63
1690	Albert Dickinson Co., Chicago, Ill.	Crescent Chick Feed.	Guaranteed Found.	10.00 10.06	5.00 3.75	60.00 73.19	2.50 3.35
1691	Albert Dickinson Co., Chicago, Ill.	Sun Chick Starter.	Guaranteed Found.	10.00 12.08	5.00 2.60	60.00 67.19	2.50 2.75
1692	Albert Dickinson Co., Chicago, Ill.	Colonial Developing Feed.	Guaranteed Found.	10.00 11.20	5.00 1.54	60.00 67.81	2.50 2.45
1693	Albert Dickinson Co., Chicago, Ill.	King Pigeon Feed.	Guaranteed Found.	10.00 10.59	5.00 2.90	60.00 66.91	2.50 3.10
1694	Albert Dickinson Co., Chicago, Ill.	Queen Poultry Mash.	Guaranteed Found.	11.00 10.50	10.00 6.00	60.00 66.90	2.50 2.70
1695	Albert Dickinson Co., Chicago, Ill.	Globe Egg Mash.	Guaranteed Found.	16.00 15.84	10.00 4.90	50.00 62.06	10.00 8.80
1696	Albert Dickinson Co., Chicago, Ill.	Alfalfa Meal.	Guaranteed Found.	12.00 14.44	35.00 30.52	35.00 38.16	1.00 1.03
1697	Albert Dickinson Co., Chicago, Ill.	White Cross Scratch Feed.	Guaranteed Found.	10.00 9.54	5.00 3.10	60.00 64.64	2.50 2.63
1698	Albert Dickinson Co., Chicago, Ill.	White Cross Chick Feed.	Guaranteed Found.	10.00 9.89	5.00 2.05	60.00 68.01	2.50 2.45

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Continued.

License No.	Manufacturer and address.	Brand.	Protein. Per cent.	Cruide fiber. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1699	Albert Dickinson Co., Chicago, Ill.	White Cross Stock Feed.	Guaranteed. Found.	10.00 9.64	60.00 60.11	3.00 3.83
1700	American Milling Co., Chicago, Ill.	Sucrose Scratch Feed.	Guaranteed. Found.	10.00 10.33	63.00 67.61	3.00 3.97
1701	American Milling Co., Chicago, Ill.	Sucrose Dairy Feed.	Guaranteed. Found.	16.80 15.78	46.00 48.10	3.50 6.50
1702	American Milling Co., Chicago, Ill.	AMCO Old Process Linseed Meal.	Guaranteed. Found.	33.00 31.88	30.00 39.79	6.00 6.76
1703	American Milling Co., Chicago, Ill.	Sucrose Chick Feed.	Guaranteed. Found.	10.00 10.93	65.00 71.83	3.00 3.35
1704	Henderson & Sons Milling Co., Grand Rapids, Mich.	"Corn Meal".	Guaranteed. Found.	8.75 8.93	73.16 77.53	4.30 3.63
1705	Midland Linseed Products Co., Minneapolis, Minn.	Midland Brand Old Process Ground Linseed Cake.	Guaranteed. Found.	33.00 33.78	36.50 37.73	8.50 6.56
1706	West Branch Flour Mfg. Co., West Branch, Mich.	Street Car Feed.	Guaranteed. Found.	8.33 8.80	71.47	6.00
1707	Ralston Purina Co., St. Louis, Mo.	Purina Mill Feed, Chick Size.	Guaranteed. Found.	11.00 10.41	66.00 71.99	3.00 3.13
1708	Ralston Purina Co., St. Louis, Mo.	Purina Mill Feed, Scratch Size.	Guaranteed. Found.	11.00 10.59	65.00 73.26	3.00 3.30
1709	Illinois Feed Mills, St. Louis, Mo.	Feed Well Mill Feed, Chick Size.	Guaranteed. Found.	11.00 11.11	65.00 66.69	3.00 3.37
1710	American Cotton Oil Co., New York.	"Choice Cotton Seed Meal".	Guaranteed. Found.	40.00 10.00	6.40	7.00
1711	Wm. Fluemmer, Mt. Clemens, Mich.	Fluemer's Chicken Feed.	Guaranteed. Found.	10.80 4.55	13.30	5.15
1712	The Ubiko Milling Co., Cincinnati, Ohio.	Union Grains (Ubiko) Bites Ready Ration.	Guaranteed. Found.	24.00 23.89	50.00 44.51	7.00 6.80
1713	Pratt Food Co., Chicago, Ill.	Pratt's Baby Chick Food.	Guaranteed. Found.	12.00 3.00	60.00	3.00

1714	Dewey Bros. Co., Blanchester, Ohio.	Bourbon 3 D Grains	Guaranteed Found	24.00	14.00	40.00	8.00
1715	Dewey Bros. Co., Blanchester, Ohio.	Eagle 3 D Grains	Guaranteed Found	30.00	13.00	30.00	10.00
1716	Continental Cereal Co., Peoria, Ill.	Continental Gluten Feed	Guaranteed Found	29.00	10.50		12.50
1717	Darling & Co., Chicago, Ill.	Darling's Granulated Bone	Guaranteed Found	20.00 21.61			2.00 1.91
1718	Darling & Co., Chicago, Ill.	Darling's Meat Mash	Guaranteed Found	45.00	3.00		.50
1719	Darling & Co., Chicago, Ill.	Darling's Meat Scraps	Guaranteed Found	55.00 53.20	3.00		.50 9.15
1720	C. C. Wright, Orosco, Mich.	Occident Chick Feed	Guaranteed Found	8.83	3.90	66.97	3.25
1721	C. C. Wright, Orosco, Mich.	Wright's Mixture	Guaranteed Found	8.75	3.00	66.45	4.35
1722	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Dairy Feed	Guaranteed Found	16.00	15.00		2.00
1723	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Horse Feed	Guaranteed Found	11.00 10.69	12.00 11.77	52.27	2.00 1.92
1724	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Fancy Mixed Feed	Guaranteed Found	12.50	9.00		4.00
1725	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Fancy Middlings	Guaranteed Found	12.00	7.00		4.50
1726	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Hominy Feed	Guaranteed Found	10.00	5.00		6.00
1727	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Evergreen Feed	Guaranteed Found	12.00 12.24	30.00 18.44	46.86	1.00 1.11
1728	Chas. A. Krause Milling Co., Milwaukee, Wis.	Badger Stock Feed	Guaranteed Found	12.00	7.00		5.00
1729	King Milling Co., Lowell, Mich.	Kimco Bran	Guaranteed Found	13.56 15.40	8.45 8.35	55.69 58.65	4.00 3.55
1730	Darrah Milling Co., Big Rapids, Mich.	Unbolted Corn Meal	Guaranteed Found	7.88	2.15	68.22	4.45
1731	Hirst & Begley Lined Co., Chicago, Ill.	H. & B. Ground Lined Cake	Guaranteed Found	34.00 31.68	9.00 8.45	36.00 39.17	7.00 10.20

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Continued.

Lot or No.	Manufacturer and address.	Brand.	Guaranteed Found.	Protein, Per cent.	Crude fiber, Per cent.	Nitrogen— Free extract, Per cent.	Ether extract, Per cent.
1732	Northrup-King & Co., Minneapolis, Minn.	Sterling Baby Chick Starter.	Guaranteed Found.	12.25	4.51	61.87	2.70
1733	Northrup-King & Co., Minneapolis, Minn.	Sterling Chick Feed.	Guaranteed Found.	12.25	4.51	61.87	2.70
1734	Northrup-King & Co., Minneapolis, Minn.	Sterling Hen Feed.	Guaranteed Found.	11.67	4.61	65.06	3.42
1735	Joseph Wellman's Sons, Port Huron, Mich.	Mixed Chicken Feed.	Guaranteed Found.	9.01	3.30	70.88	3.40
1736	Tennessee Fibre Co., Memphis, Tenn.	Creamo Brand Cotton Seed Feed.	Guaranteed Found.	20.00 20.21	25.00 22.31	35.00 40.62	4.00 4.66
1737	F. J. Stuart, Pontiac, Mich.	Stuart's Mixed Chicken Feed.	Guaranteed Found.	9.36	4.95	69.50	3.30
1738	H. M. Hobart & Son, Detroit, Mich.	P. & H. Chop Feed.	Guaranteed Found.	8.75	5.22	69.58	3.92
1739	Corunna Milling Co., Corunna, Mich.	Corunna Chicken Feed.	Guaranteed Found.	10.02	3.37	65.65	3.33
1740	East St. Louis Cotton Oil Co., National Stock Yards, Ill.	Choice Cotton Seed Meal.	Guaranteed Found.	41.00 42.00	10.00 8.25	26.00 27.20	7.00 9.55
1741	Uibiko Milling Co., Cincinnati, Ohio.	Fourx X X X Dettlers Dried Grains.	Guaranteed Found.	31.00	13.00	35.00	12.00
1742	Cancelled.		Guaranteed Found.				
1743	Cancelled.		Guaranteed Found.				
1744	Armour Fertilizer Works, Chicago, Ill.	Armour's Blood Meal.	Guaranteed Found.	80.00	2.00		
1745	Armour Fertilizer Works, Chicago, Ill.	Armour's Meat Meal.	Guaranteed Found.	60.00	2.00		10.00
1746	Armour Fertilizer Works, Chicago, Ill.	Armour's Meat Scraps and Crackings.	Guaranteed Found.	55.00 53.90	2.00		12.00 13.85

1747	Armour Fertilizer Works, Chicago, Ill.	Armour's Granulated Bone.	Guaranteed Found.	23.00	2.00	2.00
1748	The C. E. DePuy Co., Pontiac, Mich.	Victor Chick Feed	Guaranteed Found.	9.00 9.01	2.50 2.23	67.00 67.92
1749	The C. E. DePuy Co., Pontiac, Mich.	Peerless Scratch Feed	Guaranteed Found.	8.31 11.38	2.92 2.73	62.94 68.44
1750	Argo Milling Co., Charlevoix, Mich.	Bolted Corn Meal	Guaranteed Found.	10.41	3.40	69.44
1751	L. Tewkes & Co., Milwaukee, Wis.	Badger Brand Chicken Feed	Guaranteed Found.	10.00 10.83	5.00 2.72	2.55 2.65
1752	Darling & Co., Chicago, Ill.	Darling's Standard Meat Scraps	Guaranteed Found.	45.00 46.81	3.00	50 5.25
1753	O. Gandy & Co., South Whitley, Ind.	Standard A Brand Poultry Feed, Chick Size.	Guaranteed Found.	10.00 10.24	2.50 2.47	73.97
1754	Estate of Frederick Cronenwett, Detroit, Mich.	Manhattan Stock Food	Guaranteed Found.	10.68	2.83	64.36
1755	Estate of Frederick Cronenwett, Detroit, Mich.	Manhattan Poultry Food	Guaranteed Found.	5.29	5.39	70.62
1756	Valley City Milling Co., Grand Rapids, Mich.	Farmers' Favorite Street Car Feed	Guaranteed Found.	9.36	3.90	69.55
1757	Valley City Milling Co., Grand Rapids, Mich.	Farmers' Favorite Coarse Corn Meal	Guaranteed Found.	8.22 9.61	1.17 2.70	73.68 72.34
1758	Valley City Milling Co., Grand Rapids, Mich.	Farmers' Favorite No. 1 Feed	Guaranteed Found.	8.93	2.25	72.92
1759	Valley City Milling Co., Grand Rapids, Mich.	Farmers' Favorite Cow Feed	Guaranteed Found.	14.18	6.30	61.14
1760	Edwards & Loomis Co., Chicago, Ill.	Red Comb Poultry Feed with Grit	Guaranteed Found.	10.00 9.80	5.00 2.20	60.00 72.00
1761	Edwards & Loomis Co., Chicago, Ill.	Red Comb Coarse Chick Feed with Grit.	Guaranteed Found.	10.00 10.76	5.00 1.56	60.00 71.06
1762	Edwards & Loomis Co., Chicago, Ill.	Red Comb Fine Chick Feed with Grit.	Guaranteed Found.	10.00 11.99	5.00 2.20	60.00 68.61
1763	Edwards & Loomis Co., Chicago, Ill.	Red Comb Meat Mash	Guaranteed Found.	15.00 13.66	8.00 5.55	45.00 60.93
1764	Edwards & Loomis Co., Chicago, Ill.	Red Comb Pigeon Feed with Grit.	Guaranteed Found.	10.00 10.15	5.00 2.12	60.00 69.50

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Continued.

Locals No.	Manufacturer and address.	Brand.		Protein. Per cent.	Crude fiber. Per cent.	Nitrogen— Free extract. Per cent.	Ether extract. Per cent.
1765	Edwards & Loomis Co., Chicago, Ill.	Cattle Poultry Feed with Grit.	Guaranteed. Found.	9.50 10.15	5.00 2.86	80.00 88.90	2.50 3.29
1766	Edwards & Loomis Co., Chicago, Ill.	Excelsior Horse Feed.	Guaranteed. Found.	10.00	8.00	80.00	3.00
1767	Edwards & Loomis Co., Chicago, Ill.	Pioneer Horse and Cattle Feed.	Guaranteed. Found.	7.50	8.00	80.00	2.50
1768	Edwards & Loomis Co., Chicago, Ill.	Cattle Fine Chick Feed with Grit.	Guaranteed. Found.	9.50 10.59	5.00 2.73	80.00 87.36	2.50 3.03
1769	Edwards & Loomis Co., Chicago, Ill.	Harvest Horse Feed.	Guaranteed. Found.	9.00	15.00		2.00
1770	Edwards & Loomis Co., Chicago, Ill.	Greeno Feed (Horse and Cattle).	Guaranteed. Found.	10.00	26.00		.50
1771	Edwards & Loomis Co., Chicago, Ill.	Glen Oak Dairy Feed.	Guaranteed. Found.	15.00	9.00	50.00	3.50
1772	O. Gandy & Co., South Whitley, Ind.	Standard A. Brand Poultry Feed, Scratch Size.	Guaranteed. Found.	10.00 10.15	2.50 2.35	74.08	2.77
1773	Farmers Grain & Supply Co., Camden, Ind.	Veribest XX Chop.	Guaranteed. Found.	8.75	6.45	66.45	3.60
1774	Farmers Grain & Supply Co., Camden, Ind.	Cracked Corn.	Guaranteed. Found.	7.61	2.30	72.04	4.50
1775	Farmers Grain & Supply Co., Camden, Ind.	Corn Feed Meal.	Guaranteed. Found.	7.79	2.55	70.81	4.20
1776	Scheuren & Mok, Detroit, Mich.	Eagle Mixed Feed.	Guaranteed. Found.	10.15	4.45	67.15	3.80
1777	Scheuren & Mok, Detroit, Mich.	Chick Feed.	Guaranteed. Found.	11.11	4.90	67.14	3.10
1778	Scheuren & Mok, Detroit, Mich.	Pigeon Feed.	Guaranteed. Found.	12.60	5.00	65.85	3.10
1779	Scheuren & Mok, Detroit, Mich.	Chop Feed.	Guaranteed. Found.	7.70	10.90	65.17	3.18

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1780	A. F. Peavy & Sons, Howell, Mich.	PVS Chicken Feed	Guaranteed Found	9.97	9.47	87.88	3.27
1781	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.	Dried Brewer's Grains	Guaranteed Found	25.11	12.75	47.07	5.07
1782	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.	Dried Corn Flake Feed	Guaranteed Found	6.91 7.61	.42 .30	78.62 78.94	2.15 2.35
1783	Kellogg Toasted Corn Flake Co., Battle Creek, Mich.	Broken Wheat Biscuit	Guaranteed Found	10.15	2.60	76.43	1.07
1784	Douglas & Co., Cedar Rapids, Iowa	Douglas Germ Oil Meal	Guaranteed Found	17.50	8.25	54.24	9.50
1785	J. E. Bartlett Co., Jackson, Mich., for Chicago Heights Oil Co.	Old Process Meal	Guaranteed Found	25.00	12.00		6.00
1786	Postum Cereal Co., Ltd., Battle Creek, Mich.	Chicken Feed	Guaranteed Found	8.00 9.01	15.00 3.00	55.70 70.92	1.00 2.34
1787	Nelson-Shearhod Co., Little Rock, Ark.	Crown Brand Cottonseed Meal	Guaranteed Found	38.00 38.06	12.00 16.25		5.00 6.60
1788	J. E. Bartlett Co., Jackson, Mich.	Michigan Farmer Brand Cottonseed Meal	Guaranteed Found	41.00 35.70	10.00 13.10	30.00 28.85	7.00 8.60
1789	J. E. Bartlett Co., Jackson, Mich.	Bartlett's Malt Sugar Grains	Guaranteed Found	21.00 16.98	13.00 20.00	46.34	6.00 4.68
1790	American Cotton Oil Co., New York	Red Tag Cotton Seed Meal	Guaranteed Found	38.55 38.15	11.50 12.45	6.17 29.29	7.00 7.96
1791	Michigan Cereal Co., Port Huron, Mich.	Pes Bran	Guaranteed Found	6.04	50.25	33.36	.60
1792	Almont Roller Mills, Almont, Mich.	"Pride Dairy Feed"	Guaranteed Found	16.63 16.03	7.45 6.50	57.72 58.95	3.35 2.77
1793	Sheffield-King Milling Co., Minneapolis, Minn.	"Fairbow" Shorts and Ground Wheat Screenings	Guaranteed Found	17.15 16.80	8.96 7.50	55.85	5.20
1794	Lichtenberg & Son, Detroit, Mich.	"Forumel Dairy Feed"	Guaranteed Found	19.05	8.20	49.13	5.06
1795	Everett, Augenbaugh & Co., Waseca, Minn.	E A C O Wheat Bran	Guaranteed Found	14.00	12.00		3.00
1796	Everett, Augenbaugh & Co., Waseca, Minn.	E A C O Wheat Middlings	Guaranteed Found	15.00	10.00		3.00
1797	Model Milling Co., Port Huron, Mich.	Model Egg Mash	Guaranteed Found	15.14	8.75	55.61	4.90

TABULATED ANALYSES OF COMMERCIAL FEED STUFFS. (YEAR ENDING APRIL 1, 1914.)—Continued.

License No.	Manufacturer and address.	Brand.	Guaranteed Found.	Protein. Per cent.	Crude fiber. Per cent.	Nitrogen.—Free extract. Per cent.	Ether extract. Per cent.
1798	Model Milling Co., Port Huron, Mich.	Model Scratch Feed.	Guaranteed Found.	10.32	4.10	66.88	3.45
1799	Imperial Cotto Milling Co., Peoria, Ill.	Imperial Cotto Brand Cotton Seed Meal.	Guaranteed Found.	41.00	9.00	6.50	
1800-1810	Cancelled.		Guaranteed Found.				
1811	W. C. Nodden, Little Rock, Ark.	Bee Brand Cotton Seed Meal.	Guaranteed Found.	41.00 42.35	10.00 7.95	6.50 27.95	8.00
1812	Battle Creek Health Stock Food Co., Battle Creek, Mich.	Battle Creek Health Stock Food.	Guaranteed Found.	29.31	8.38	36.23	5.14
1813	Wykes & Co., Grand Rapids, Mich.	Y. X. Corn Meal.	Guaranteed Found.	8.31 10.06	2.05 1.92	72.76 74.87	4.32 3.65
1814	Wykes & Co., Grand Rapids, Mich.	Y. X. Brand Choice Cottonseed Meal.	Guaranteed Found.	41.00 41.04	10.00 10.05	28.51	7.00
1815	H. P. Boehm Company, Benton Harbor, Mich.	Star Chicken Grain.	Guaranteed Found.	10.85 10.24	3.70 2.75	71.84 67.26	3.30 3.05
1816	A. Hyde & Son, Grand Rapids, Mich.	Coarse Corn Meal.	Guaranteed Found.	8.75 9.63	1.95 1.50	73.23 75.72	2.90 3.90
1817	Sulzberger & Sons Co., Chicago, Ill.	Sulzberger's High Protein Tankage.	Guaranteed Found.	60.00	1.00		8.00
1818	Watson-Higgins Milling Co., Grand Rapids, Mich.	Hoyle Scratch Feed.	Guaranteed Found.	8.49 11.02	2.75 2.90	65.32 64.06	2.80 2.45
1819	Watson-Higgins Milling Co., Grand Rapids, Mich.	Fine Corn Meal.	Guaranteed Found.	7.61 8.23	2.20 1.15	74.80 76.17	3.15 3.05
1820	Omaha Alfalfa Milling Co., Omaha, Neb.	Perfection Horse Feed.	Guaranteed Found.	11.00	25.00	48.00	1.00
1821	Omaha Alfalfa Milling Co., Omaha, Neb.	Green Meadow Dairy Feed.	Guaranteed Found.	10.50	12.00	55.00	2.00

1822	Standard Grocer & Milling Co., Holland, Mich.....	Standard Scratch Feed.....	Guaranteed Found.....	9.26 10.15	3.66 1.40	71.50 68.70	2.78 2.40
1823	Callam Mills, Saginaw, Mich.....	Bob White Poultry Feed.....	Guaranteed Found.....	9.00	4.00	67.00	3.00
1824	International Sugar Feed Co., Minneapolis, Minn.....	International Special Dairy Feed.....	Guaranteed Found.....	15.00	12.00	33.00	4.50
1825	Caughey-Swift Co., Detroit, Mich.....	C C C Scratch Feed.....	Guaranteed Found.....	13.83	1.95	66.42	3.55
1826	Fairfield & Kolvoord, Allegan, Mich.....	Mixed Feed.....	Guaranteed Found.....	10.76	3.55	71.39	3.28
1827	Grand Rapids Grain & Milling Co., Grand Rapids, Mich.....	Purity Scratch Feed.....	Guaranteed Found.....	9.36 9.89	4.62 3.45	67.00 68.06	3.62 4.35
1828	Carutherville Cotton Oil Co., National Stock Yards, Ill.....	Cotton Seed Meal.....	Guaranteed Found.....	41.00	10.00	26.00	7.00

DRUG ANALYST'S REPORT.



July 1, 1914.

Hon. James W. Helme, Lansing, Michigan:

Dear Sir:—I herewith beg to submit the annual report of the Drug Department for the fiscal year ending June 30th, 1914.

During this period a total of 571 official samples were analyzed, 214 or 37.5% were condemned as not being in conformity with the requirements of the drug law. Also during this period there were analyzed a great number of unofficial preparations, such as Patent Medicine fakes, toilet preparations (fakes), Whiskey and Drug Cures, etc. The results of the patent medicine fakes were published in our regular monthly bulletin, while the results of the toilet preparations, meat preservatives and miscellaneous articles were published in a special bulletin, entitled "Fakes and Frauds," for which there has been a great demand.

A comparison of the work for the various years since the organization of this department may not be out of place here. Our reports show that for the year ending July 1st, 1911 a total of 631 samples were analyzed, of which number 357 or 56.5% were adulterated. In 1912, 282 were analyzed, 160 or 56.7% of which were adulterated. In 1913, 504 were analyzed, 252 or 50% being adulterated. In 1914, 571 were analyzed and 214 or 37.5% of which were adulterated. While the above figures show that there has been a gradual decrease in the percentage of adulterated samples, yet this decrease isn't as great as one would expect. A glance at the tabulated report shows that 22 out of 57 samples of camphor liniment, 13 out of 24 sweet spirits of nitre, 31 out of 46 spirits of peppermint and 79 out of 132 samples of Tr. of Iodine were condemned. This is an unusually high proportion and there is no legitimate excuse, as the technique of manufacture for these products is quite simple.

Yours truly,
A. R. TODD,
Drug Analyst.

SUMMARY OF DRUGS.

Article.	Total.	Not found adulterated misbranded or illegally sold	Found adulterated misbranded or illegally sold
Acetanilide tablets.....	1	1	0
Aspirin tablets.....	24	20	4
Beef, iron and wine.....	1	1	0
Bismuth subnitrate.....	3	3	0
Boric acid.....	1	1	0
Camphor liniment.....	57	35	22
Codeine sulphate.....	1	1	0
Con. Tr. opium comphorated.....	4	4	0
Cream of tartar.....	2	2	0
Elixir iron, quinine and strychnine.....	5	3	2
Elixir iron, quinine and strychnine phosphate.....	4	2	2
Epsom salts.....	1	1	0
Essence pepsin.....	14	11	3
Extract vanilla.....	1	0	1
Fluid extract nux vomica.....	6	5	1
Fluid extract opium (Conc.).....	3	3	0
Formin tablets.....	1	1	0
Fowlers solution.....	14	13	1
Headache powders.....	14	10	4
Hydrogen peroxide.....	3	2	1
Lead subacetate solution.....	1	1	0
Lime water.....	1	1	0
Paregoric.....	12	11	1
Phenacetine and salol.....	1	1	0
Potassium iodide.....	2	0	2
Powdered milk sugar.....	1	1	0
Proprietary preparations.....	5	4	1
Seldlitz powders.....	16	12	4
Soap liniment.....	13	6	7
Spirits camphor.....	49	34	15
Spirits nitre.....	24	13	11
Spirits peppermint.....	46	15	31
Sugar of milk.....	10	10	0
Sweet oil.....	4	3	1
Syrup iron iodide.....	2	1	1
Tr. belladonna.....	7	2	5
Tr. iodine.....	132	53	79
Tr. nux vomica.....	2	1	1
Tr. opium.....	29	25	4
Tr. opium comphorated.....	12	12	0
Tr. opium deodorized.....	1	1	0
T. T. Codeine.....	5	5	0
T. T. codeine sulphate.....	5	4	1
T. T. morphine sulphate.....	12	11	1
T. T. nitroglycerine.....	7	3	4
Zinc oxide ointment.....	12	8	4
Total.....	571	357	214

ANALYSES OF SAMPLES.

ASPIRIN.

No. 29036, Q-263. Sample of C. T. Aspirin manufactured by Frank G. Scott, Detroit, and procured from F. W. Harris, Birch Run. Misbranded in that the aspirin content does not equal that stated on the label.

No. 29046, Q-273. Sample of C. T. Aspirin procured from M. R. Deo, North Branch. Misbranded in that the sample does not conform to statement on the label. Low in aspirin content.

No. 29250, Q-295. Sample of Aspirin (5 gr.) manufactured by Wm. R. Warner & Co., Philadelphia, Pa., and procured from A. E. Tomlinson, Saginaw. Sample does not contain 5 grains of aspirin as stated on the label.

No. 29252, Q-297. Sample of 5 gr. Aspirin tablets manufactured by F. W. Kerr, Detroit, and procured from B. A. Wright, 2710 Washington St., Saginaw. Sample does not contain five grains of aspirin as stated on the label.

CAMPHOR LINIMENT.

No. 27490, Z-80. Sample of camphorated oil manufactured and sold by White and White; Grand Rapids. Does not conform to U. S. P. requirements. Low in camphor.

No. 27491, Z-81. Sample of camphorated oil manufactured and sold by F. W. Smelker, Lake Odessa. Does not conform to U. S. P. requirements. Low in camphor.

No. 27510, Q-136. Sample of camphorated oil manufactured and sold by F. J. Erwin, Marlette. Does not conform to U. S. P. requirements. A mixture of camphor and linseed oil.

No. 27540, Z-84. Sample of camphorated oil manufactured and sold by Geo. S. Layerer, Bay City. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27541, Z-85. Sample of camphorated oil manufactured and sold by W. E. Stevenson, Bay City. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27543, Z-87. Sample of camphorated oil manufactured and sold by F. C. Warner, Bay City. Does not conform to U. S. P. requirements. Low in camphor.

No. 27565, Z-98. Sample of camphorated oil manufactured and sold by Aug. Bauer, Chesaning. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27661, Q-145. Sample of camphorated oil manufactured and sold by L. F. Barlow, Delray. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27703, Q-149. Sample of camphorated oil manufactured and sold by R. W. Rennie, 771 3rd Ave., Detroit. Does not conform to U. S. P. requirements in that it is low in camphor.

No. 27935, Q-157. Sample of camphor liniment manufactured and sold by G. S. Dewey, Jackson. Not in conformity with U. S. P. requirements. Low in camphor.

No. 28832, Q-229. Sample of camphorated oil manufactured and sold by E. L. Langworthy, Linden. Not in conformity with U. S. P. requirements. Low in camphor.

No. 29006, Q-255. Sample of camphor liniment manufactured and sold by Carl W. Wilcox, Henderson. Low in camphor.

No. 29041, Q-268. Sample of camphor liniment manufactured and sold by O. C. Palmer, Caro. Low in camphor.

No. 29222, Z-258. Sample of camphor liniment manufactured and sold by Walsh Drug Co., Holland. Low in camphor.

No. 29299, Q-302. Sample of camphor liniment manufactured and sold by W. T. Fowley & Co., Bay City. Low in camphor.

No. 29423, Z-291. Sample of camphor liniment manufactured and sold by E. L. Fritz, Muskegon Heights. Camphor 12.61%. Low in camphor.

No. 29456, Z-295. Sample of camphor liniment manufactured and sold by the Erwin Drug Co., Battle Creek. Camphor 16.6%. Low in camphor.

No. 29515, Q-338. Sample of camphor liniment manufactured and sold by A. S. Larabee, Flint. Camphor 18.675%. Low in camphor.

No. 29660, Q-345. Sample of camphor liniment manufactured and sold by F. W. Gordon, Detroit. Camphor 3.486%. Low in camphor.

No. 30494, Q-416. Sample of camphor liniment manufactured and sold by the Robinson Pharmacy, 517 Hastings St., Detroit. Camphor 13.28%. Low in camphor.

No. 30586, Q-422. Sample of camphor liniment manufactured and sold by J. W. Gardula, 2463 Jefferson Ave., West, Delray. Camphor 14.27%. Low in camphor.

No. 30588, Q-424. Sample of camphor liniment manufactured and sold by Glenn E. Bowles, 2318 Jefferson Ave., West, Delray. Camphor 18.26%. Low in camphor.

ELIXIR IRON, QUININE AND STRYCHNINE.

No. 28885, Q-230. Sample of elixir iron, quinine and strychnine manufactured by the Lambert Pharmaceutical Chemical Co., Detroit, and procured from F. L. McIntyre, Detroit. Low in total alkaloids.

No. 30346, Z-366. Sample of elixir iron, quinine and strychnine manufactured by the American Druggists' Syndicate, New York, and procured from G. D. Platts, McBain. Total alkaloids .4184 gms. per 100 cc. Low in total alkaloids.

ELIXIR IRON, QUININE AND STRYCHNINE PHOSPHATE.

No. 28217, Q-194. Sample of elixir iron, quinine and strychnine phosphate manufactured and sold by the Cushing Pharmacy, Ann Arbor. Not a U. S. P. product. Low in quinine and strychnine.

No. 30340, Z-360. Sample of elixir iron, quinine and strychnine phos-

phate manufactured and sold by S. M. Snow, Ludington. Total alkaloids .3312 gms. per 100 cc. Low in total alkaloids.

PEPSIN.

No. 28472, Q-210. Sample of pepsin manufactured by the Nelson & Baker Co., Detroit, and procured from Mrs. S. A. Ferguson, 3130 Jefferson Ave., W., River Rouge. Below U. S. P. requirements in digestive power.

No. 28922, Q-247. Sample of pepsin manufactured by the Michigan Drug Co., Detroit, and procured from F. M. McCormick, Williamston. Low in digestive power.

No. 29003, Q-252. Sample of essence pepsin manufactured by Fredrick Stearns & Co., Detroit, and procured from E. D. Beebe, Ovid. Low in digestive power.

EXTRACT VANILLA.

No. 27638, Q-142. Sample of extract vanilla manufactured by F. A. Thompson & Co., Detroit, handled by the Wolverine Drug Co., Detroit, as jobbers and procured from E. E. Calkins, Ann Arbor. Sample is dilute vanilla extract.

FLUID EXTRACT NUX VOMICA.

No. 29001, Q-250. Sample of fluid extract nux vomica procured from L. W. Curtis, Elsie. Low in strychnine.

FOWLERS SOLUTION.

No. 30296, Z-350. Sample of Fowlers Solution manufactured and sold by the Stewart Avenue Pharmacy, W. H. Quigley, proprietor, Grand Rapids. Arsenic trioxide 0.69%. Low in arsenic trioxide.

HEADACHE POWDERS.

No. 28178. Unofficial sample of Haan's Headache Powders. Misbranded in that each powder contains about three times as much acetanilid as the amount stated on the label.

No. 28454, Z-164. Sample of Greene's Headache Powder manufactured and sold by C. R. Greene, Grand Rapids. Acetanilid present. No statement of acetanilid on label.

No. 28623, Z-178. Sample of Anderson's Headache and Neuralgia Powders manufactured and sold by Chas. J. Anderson, Manistee. Labeled Acetanilid 4 gr. Strength of this preparation falls below the professed standard under which it is labeled.

No. 28624, Z-179. Sample of Frank's Headache Powders manufactured and sold by Frank A. Adamski, Manistee. Labeled acetanilid per powder 3 gr. Strength of this preparation falls below the professed standard under which it is labeled.

HYDROGEN PEROXIDE.

No. 28527, Q-215. Sample of Hydrogen Peroxide manufactured by the Aetna Chemical Co., Detroit, and procured from P. E. Richter, Adrian. Not U. S. P. Low in available oxygen.

PAREGORIC.

No. 29358, Z-282. Sample of paregoric manufactured and sold by Weinman-Matthews Co., Jackson. Morphine .0304 gms. Low in morphine.

POTASSIUM IODIDE.

No. 28471, Q-209. Sample of potassium iodide manufactured by Eberbach & Son, Ann Arbor, sold by Farrand, Williams & Clark, Detroit, and procured from T. Belanger, 3202 Jefferson Ave. West. River Rouge. Sample is a mixture of potassium iodide and potassium chloride.

No. 29131, Q-286. Sample of potassium iodide manufactured by Eberbach & Son, Ann Arbor, procured from Farrand, Williams & Clark, Detroit. Sample is a mixture of potassium iodide and potassium chloride.

PREPARATORY PREPARATIONS.

No. 30307, Q-406. Sample of Blood Poison Antiseptic manufactured and sold by F. S. Banks, Mason. A hydro-alcoholic solution of the constituents of some plant. Statements concerning its curative power which appear on label are deceptive and misleading.

SEIDLITZ POWDERS.

No. 27763, Q-150. Sample of seidlitz powders manufactured by the Milwaukee Drug Co., Milwaukee, and procured from Vennema's Pharmacy, Menominee. Not a U. S. P. preparation. Blue papers do not contain sufficient of the mixture of sodium bicarbonate and potassium and sodium tartrate.

No. 27819, Z-108. Sample of seidlitz powders manufactured and sold by Conway & Hall, Sault Ste. Marie. Not U. S. P. Blue papers do not contain sufficient of the mixture of sodium bicarbonate and potassium and sodium tartrate.

No. 27820, Z-109. Sample of seidlitz powders manufactured and sold by Rudell Drug Company, Sault Ste. Marie. Not U. S. P. Blue papers do not contain sufficient of the mixture of sodium bicarbonate, potassium and sodium tartrate.

No. 27993, Z-124. Sample of seidlitz powders manufactured by Lambert & Lowman, Detroit, and procured from R. Eckerman, Muskegon. Not U. S. P. White papers contain an excess of tartaric acid.

SOAP LINIMENT.

No. 27917, Z-114. Sample of soap liniment manufactured and sold by the Wagner Drug Company, Bangor. Not in conformity with U. S. P. requirements in that it is low in camphor.

No. 28071, Z-134. Sample of soap liniment manufactured and sold by the Red Cross Drug Co., Benton Harbor. Does not conform to U. S. P. requirements. Contains an excessive amount of camphor and is deficient in soap.

No. 28223, Z-155. Sample of soap liniment manufactured and sold by F. C. Cowdry, Mt. Pleasant. Not U. S. P. Low in camphor and soap.

No. 28620, Z-175. Sample of soap liniment manufactured and sold

by Johnson Drug Co., Traverse City. Not U. S. P. Low in camphor and soap.

No. 28622, Z-177. Sample of soap liniment manufactured and sold by the American Drug Co., Traverse City. Not U. S. P. Low in camphor and soap.

No. 28819, Z-194. Sample of soap liniment manufactured and sold by James Gidley, East Jordan. Not U. S. P. Does not contain proper proportion of soap.

No. 29457, Z-298. Sample of soap liniment manufactured and sold by J. L. Bullock, Three Rivers. Low in camphor and soap.

SPIRITS CAMPHOR.

No. 27936, Q-158. Sample of spirits of camphor manufactured and sold by F. M. Colwell, Jackson. Not in conformity with U. S. P. requirements in that it is low in camphor.

No. 28096, Z-143. Sample of spirits of camphor manufactured and sold by Peter Scherer & Sons, Benton Harbor. Not in conformity with U. S. P. requirements in that it is low in camphor.

No. 28218, Q-195. Sample of spirits camphor manufactured and sold by the Sibley Pharmacy, 417 Woodward Ave., Detroit. Sample is low in camphor and consists in part of wood alcohol.

No. 28280, Q-200. Sample of spirits camphor manufactured and sold by Jones Bros., 1653 Grand River Ave., Detroit. Not U. S. P. Low in camphor.

No. 28888, Q-233. Sample of spirits of camphor manufactured and sold by F. M. Mead, 822 Trumbull Ave., Detroit. Low in camphor.

No. 28906, Q-234. Sample of spirits camphor manufactured and sold by Sprague & Co., Owosso. Low in camphor.

No. 28909, Q-237. Sample of spirits camphor manufactured and sold by W. D. Whitehead & Co., Owosso. Low in camphor, and contains added water.

No. 28918, Q-243. Sample of spirits camphor manufactured and sold by A. R. Gardner, Fowlerville. Low in camphor.

No. 29245, Q-290. Sample of spirits camphor manufactured and sold by Wm. Kipp, Wheeler. Low in camphor.

No. 29356, Z-280. Sample of spirits of camphor manufactured by Dr. J. Chmelnicki, Somerville, Mass., and procured from A. Syc, Kalamazoo. Camphor 2.075%. Low in camphor and contains added water.

No. 29417, Z-285. Sample of spirits camphor manufactured and sold by George F. Baker, 451 Carrier St., Grand Rapids. Camphor 5.06%. Low in camphor.

No. 29455, Z-294. Sample of spirits camphor manufactured and sold by J. N. Gustin, Marshall. Camphor 8.3%. Low in camphor.

No. 29509, Q-332. Sample of spirits camphor manufactured and sold by McKeighan Drug Co., 1301 Saginaw St., South, Flint. Camphor 9.13%. Low in camphor.

No. 30139, Q-392. Sample of spirits camphor manufactured and sold by J. M. Hacket, 577 St. Antoine St., Detroit. Camphor 8.76%. Low in camphor.

No. 30289, Q-400. Sample of spirits camphor manufactured and sold by J. L. Pamerleau, 193 Myrtle St., Detroit. Camphor 9.13%. Low in camphor.

SPIRITS NITRE.

No. 27930, Q-152. Sample of spirits nitre manufactured by Puhl-Webb Co., Chicago, Ill., and procured from T. L. Thiel, Pigeon. Not U. S. P. Low in nitrite.

No. 28277, Q-197. Sample of spirits nitre manufactured and sold by W. R. Gordon, 211 Farnsworth St., Detroit. Not U. S. P. Low in ethyl nitrite.

No. 28282, Q-202. Sample of spirits nitre manufactured and sold by H. S. Taylor, 200 Henry St., Detroit. Not U. S. P. Low in ethyl nitrite.

No. 28831, Q-228. Sample of spirits nitre manufactured and sold by E. L. Langworthy, Linden. Not U. S. P. Low in ethyl nitrite.

No. 29007, Q-256. Sample of spirits nitre manufactured by the Michigan Drug Co., Saginaw, and procured from Carl W. Wilcox, Henderson. Low in ethyl nitrite.

No. 29096, Q-279. Sample of spirits nitre manufactured and sold by G. M. Benedict, Applegate. Low in ethyl nitrite.

No. 29246, Q-291. Sample of spirits nitre manufactured by the Michigan Drug Co., Saginaw, and procured from Wm. Kipp, Wheeler. Low in ethyl nitrite.

No. 29297, Q-300. Sample of spirits nitre manufactured and sold by W. E. Stevenson, Bay City. Low in ethyl nitrite.

No. 29513, Q-336. Sample of spirits nitre manufactured and sold by J. F. Martin, 100 Washington Ave., Bay City. Ethyl nitrite 2.95%. Low in ethyl nitrite.

No. 29600, Q-341. Sample of spirits nitre procured from Earl G. Abbott, Sterling. Ethyl nitrite 2.78%. Low in ethyl nitrite.

No. 29602, Q-343. Sample of spirits nitre procured from T. L. Thiel, Pigeon. No ethyl nitrite present.

SPIRITS PEPPERMINT.

No. 28149, Q-186. Sample of spirits peppermint manufactured and sold by B. H. Fanning, 1330 Mack Ave., Detroit. Not U. S. P. Low in oil of peppermint.

No. 28279, Q-199. Sample of spirits peppermint manufactured and sold by Jones Bros., 1653 Grand River Ave., Detroit. Not U. S. P. Low in oil of peppermint.

No. 28283, Q-203. Sample of spirits peppermint manufactured and sold by F. Courtright, 242 Grand River Ave., Detroit. Not U. S. P. Low in oil of peppermint.

No. 28630, Z-185. Sample of spirits peppermint manufactured and sold by E. E. Miller & Son, Traverse City. Not U. S. P. Low in oil of peppermint.

No. 28911, Q-239. Sample of spirits peppermint manufactured and sold by W. A. Conley, Morrice. Low in oil of peppermint.

No. 28913, Q-241. Sample of spirits peppermint manufactured and sold by Sherman & Grettenberger, Perry. Low in oil of peppermint.

No. 28989, Z-214. Sample of spirits peppermint manufactured and sold by Hubbard & Fuller, Greenville. Low in oil of peppermint.

No. 29008, Q-257. Sample of spirits peppermint manufactured and sold by Valentine Thomas, Oakley. Low in oil of peppermint.

No. 29083, Z-221. Sample of spirits peppermint manufactured and sold by C. R. St. Germaine, Decatur. Low in oil of peppermint.

No. 29086, Z-231. Sample of spirits peppermint manufactured and sold by Wm. H. Peets, Battle Creek. Low in oil of peppermint.

No. 29103, Z-234. Sample of spirits peppermint manufactured and sold by C. F. Frost, Grand Rapids. Low in oil of peppermint.

No. 29143, Z-243. Sample of spirits peppermint manufactured and sold by S. Van Ostrand, South Haven. Low in oil of peppermint.

No. 29174, Z-249. Sample of spirits peppermint manufactured and sold by Alton L. Nye, Lake Odessa. Low in oil of peppermint.

No. 29309, Z-266. Sample of spirits peppermint manufactured and sold by M. E. Gamble, Kalamazoo. Low in oil of peppermint.

No. 29349, Z-277. Sample of spirits peppermint manufactured and sold by George A. Dykemann, Battle Creek. Oil of peppermint 5.0%. Low in oil of peppermint.

No. 29357, Z-281. Sample of spirits peppermint manufactured and sold by W. H. White, Jackson. Oil of peppermint 9.0%. Low in oil of peppermint.

No. 29422, Z-290. Sample of spirits peppermint manufactured and sold by W. D. Day, Caledonia. Oil of peppermint 8.0%. Low in oil of peppermint.

No. 29437, Q-318. Sample of spirits peppermint manufactured and sold by B. H. Fanning, 1330 Mack Ave., Detroit. Oil of peppermint 1.5%. Low in oil of peppermint.

No. 29487, Z-303. Sample of spirits peppermint manufactured and sold by Hyndman & Way, Jackson. Oil of peppermint 7.6%. Low in oil of peppermint.

No. 29516, Q-339. Sample of spirits peppermint manufactured and sold by A. S. Larabee, Flint. Oil of peppermint 7.6%. Low in oil of peppermint.

No. 29697, Z-320. Sample of spirits peppermint manufactured and sold by Fox & Tyler, Coldwater. Oil of Peppermint 6.3%. Low in oil of peppermint.

No. 29903, Q-375. Sample of spirits peppermint manufactured and sold by Home Pharmacy, 405 Gratiot Ave., Detroit. Oil of peppermint 1.5%. Low in oil of peppermint.

No. 30040, Q-389. Sample of spirits peppermint manufactured and sold by Ray M. Ries & Co., Goodrich. Oil of peppermint 9.2%. Low in oil of peppermint.

No. 30137, Z-342. Sample of spirits peppermint manufactured and sold by Henry Reichel Drug Co., Ideal Pharmacy, Grand Rapids. Oil of peppermint 9.2%. Low in oil of peppermint.

No. 30140, Q-393. Sample of spirits peppermint manufactured and sold by J. M. Hackett, 577 St. Antoine St., Detroit. Oil of peppermint 4.4%. Low in oil of peppermint.

No. 30290, Q-401. Sample of spirits peppermint manufactured and sold by J. L. Parmerleau, 193 Myrtle St., Detroit. Oil of peppermint 7.0%. Low in oil of peppermint.

No. 30300, Z-354. Sample of spirits peppermint manufactured and sold by Charles Rhodes, Alma. Oil of peppermint 6.4%. Low in oil of peppermint.

No. 30305, Z-359. Sample of spirits peppermint manufactured and

sold by Henry Randolph, St. Louis. Oil of peppermint 3.6%. Low in oil of peppermint.

No. 30353, Q-409. Sample of spirits peppermint manufactured and sold by Goldberg's Home Pharmacy, 405 Gratiot Ave., Detroit. Oil of peppermint 1.8%. Low in oil of peppermint.

No. 30491, Q-413. Sample of spirits peppermint manufactured and sold by Otto R. K. Kurz, 752 Michigan Ave., Detroit. Oil of peppermint 2.0%. Low in oil of peppermint.

No. 30493, Q-415. Sample of spirits peppermint manufactured and sold by the Robinson Pharmacy, 517 Hastings St., Detroit. Oil of peppermint 6.0%. Low in oil of peppermint.

SWEET OIL.

No. 29601, Q-342. Sample of sweet oil manufactured by Northrup, Robertson & Carrier, Lansing, and procured from T. L. Thiel, Pigeon. Sample consists wholly or in part of cottonseed oil. Not properly labeled.

TINCTURE BELLADONNA.

No. 29107, Z-238. Sample of Tr. belladonna manufactured and sold by J. G. Steketee, Grand Rapids. Low in alkaloids.

No. 29108, Z-239. Sample of Tr. belladonna manufactured and sold by Cutler-Lauster Drug Co., Ionia. Low in alkaloids.

No. 29171, Z-246. Sample of Tr. belladonna manufactured and sold by F. E. Beard, Charlotte. Low in alkaloids from belladonna leaves.

No. 29217, Z-253. Sample of Tr. belladonna manufactured and sold by Peter Vellemar, Grand Rapids. Low in alkaloids from belladonna leaves.

No. 29224, Z-260. Sample of Tr. belladonna manufactured and sold at Opera House Pharmacy, Holland. Low in alkaloids from belladonna leaves.

TINCTURE IODINE.

No. 27636, Q-140. Sample of tincture iodine manufactured and sold by M. W. Moore, Sandusky. Does not conform to U. S. P. requirements in that it is low in potassium iodide.

No. 27934, Q-156. Sample of tincture iodine manufactured and sold by G. S. Dewey, Jackson. Not U. S. P. Low in iodine.

No. 28080, Z-140. Sample of tincture iodine manufactured and sold by E. L. Moore, Albion. Not U. S. P. Low in iodine and potassium iodide.

No. 28095, Z-142. Sample of tincture iodine manufactured and sold by Geo. S. Barnard, Benton Harbor. Not U. S. P. Low in iodine.

No. 28099, Z-146. Sample of tincture iodine manufactured and sold by Fred A. Potter, St. Joseph. Not U. S. P. Low in iodine and potassium iodide.

No. 28148, Q-185. Sample of tincture iodine manufactured and sold by Bert H. Fanning, Detroit. Not U. S. P. Low in iodine and potassium iodide.

No. 28276, Q-192. Sample of Tr. Iodine manufactured and sold by Little & Son, 1609 Joseph Campau Ave., Detroit. Not U. S. P. Low in iodine and potassium iodide.

No. 28456, Z-166. Sample of Tr. Iodine manufactured and sold by F. M. Fish, Cassopolis. Not U. S. P. Low in potassium iodide.

No. 28526, Q-214. Sample of Tr. Iodine manufactured and sold by E. W. Lee & Son, Morenci. Not U. S. P. Low in iodine and potassium iodide.

No. 28531, Q-219. Sample of Tr. Iodine manufactured and sold by Cahalan Bros. Co., Wyandotte. Not U. S. P. Low in iodine.

No. 28621, Z-176. Sample of Tr. Iodine manufactured and sold by G. L. Fenton, Kingsley. Not U. S. P. Low in iodine and potassium iodide.

No. 28628, Z-183. Sample of Tr. Iodine manufactured by B. B. Burkhead, Northport. Not U. S. P. Low in iodine and potassium iodide.

No. 28820, Z-196. Sample of Tr. Iodine manufactured and sold by Webber-Benson Co., Cadillac. Not U. S. P. Low in potassium iodide.

No. 28887, Q-232. Sample of Tr. iodine manufactured and sold by A. S. Abbott, 1468 14th Ave., Detroit. Low in iodine and potassium iodide.

No. 28898, Z-200. Sample of Tr. iodine manufactured and sold by James Burt, Grand Rapids. Low in potassium iodide.

No. 28901, Z-203. Sample of Tr. iodine manufactured by K. H. Nelson, Dowagiac. Low in iodine and potassium iodide.

No. 28907, Q-235. Sample of Tr. iodine manufactured and sold by Sprague & Co., Owosso. Low in iodine and potassium iodide.

No. 28910, Q-238. Sample of Tr. iodine manufactured and sold by W. A. Conley, Morrice. Low in potassium iodide.

No. 28919, Q-244. Sample of Tr. iodine manufactured by A. R. Gardner, Fowlerville. Low in iodine and potassium iodide.

No. 28960, Z-208. Sample of Tr. iodine manufactured and sold at Hunts Drug Store, St. Johns. Low in potassium iodide.

No. 28990, Z-215. Sample of Tr. iodine manufactured and sold by Peter Van Deinse, Greenville. Low in iodine.

No. 28999, Q-248. Sample of Tr. iodine manufactured and sold by E. S. Upson, Durand. Low in potassium iodide.

No. 29005, Q-254. Sample of Tr. iodine manufactured and sold by Carl W. Wilcox, Henderson. Low in iodine.

No. 29031, Z-226. Sample of Tr. Iodine manufactured and sold by J. DeKruif & Co., Grand Rapids. Low in potassium iodide.

No. 29034, Q-261. Sample of Tr. iodine manufactured and sold by Slattery Bros., Mt. Morris. Low in iodine and potassium iodide.

No. 29039, Q-266. Sample of Tr. iodine manufactured and sold by O. C. Palmer, Caro. Low in iodine.

No. 29084, Z-229. Sample of Tr. iodine manufactured and sold by Sheldon Coleman, Lawton. Low in iodine and potassium iodide.

No. 29093, Q-276. Sample of Tr. iodine manufactured and sold at the Marquette Pharmacy, Port Huron. Low in iodine.

No. 29099, Q-282. Sample of Tr. iodine manufactured and sold by E. L. Moore, Minden City. Low in iodine and potassium iodide.

No. 29169, Q-287. Sample of Tr. iodine manufactured and sold by M. W. Moore, Sandusky. Low in iodine and potassium iodide.

No. 29172, Z-247. Sample of Tr. iodine manufactured and sold by James H. Bryan, Charlotte. Low in potassium iodide.

No. 29219, Z-255. Sample of Tr. Iodine manufactured and sold by John W. Kramer, Holland. Low in potassium iodide.

No. 29223, Z-259. Sample of Tr. iodine manufactured and sold by H. R. Doesburg, Holland. Low in iodine and potassium iodide.

No. 29227, Z-263. Sample of Tr. iodine manufactured and sold by A. E. Mulholland, Hastings. Low in iodine and potassium iodide.

No. 29243, Q-286. Sample of Tr. iodine manufactured and sold by Marwinski & Loebrich, 901 Lapeer St., Saginaw. Contains an excessive amount of iodine and potassium iodide.

No. 29300, Q-303. Sample of Tr. iodine manufactured and sold by W. T. Fowley & Co., 610 Midland St., Bay City. Low in iodine.

No. 29310, Z-267. Sample of Tr. iodine manufactured and sold by F. B. Drolet, Kalamazoo. Low in iodine.

No. 29316, Z-273. Sample of Tr. iodine manufactured and sold by Chas. Macomber, Battle Creek. Low in iodine.

No. 29348, Z-276. Sample of Tr. iodine manufactured and sold by DuBois Drug Co., Bellevue. Iodine 5.16 gms. potassium iodide 2.846 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29360, Z-284. Sample of Tr. iodine manufactured and sold by Hoffman Bros., Jackson. Iodine 5.9 gms., potassium iodide 4.250 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29382, Q-311. Sample of Tr. Iodine manufactured and sold at Peoples Pharmacy, New Baltimore. Iodine 5.07 gms., potassium iodide 4.369 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29421, Z-289. Sample of Tr. Iodine manufactured and sold by James Burt, Grand Rapids. Iodine 5.178 gms., potassium iodide 2.741 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29424, Z-292. Sample of Tr. Iodine manufactured and sold by G. Van Arkel, Muskegon Heights. Iodine 5.66 gms. per 100 cc. Low in iodine.

No. 29438, Q-319. Sample of Tr. Iodine manufactured and sold by B. H. Fanning, 1330 Mack Ave., Detroit. Iodine 6.0 gms., potassium iodide 4.9 gms. per 100 cc. Low in iodine.

No. 29444, Q-325. Sample of Tr. Iodine manufactured and sold by Little & Son, 1609 Jos. Campau Ave., Detroit. Iodine 5.71 gms., potassium iodide 3.374 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29458, Z-299. Sample of Tr. Iodine manufactured and sold by Dr. Bryant Weed, Centerville. Iodine 5.33 gms., potassium iodide 0.3 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29507, Q-330. Sample of Tr. Iodine manufactured and sold by W. A. Toomey, Flint. Iodine 6.09 gms. per 100 cc. Low in iodine.

No. 29603, Q-344. Sample of Tr. Iodine manufactured and sold by Jones Drug Co., Detroit. Iodine 6.34 gms. per 100 cc., potassium iodide none. No potassium iodide present.

No. 29695, Z-318. Sample of Tr. Iodine manufactured and sold by Karl H. Nelson, Dowagiac. Iodine 7.6 gms., potassium iodide 9.384 gms. per 100 cc. Contains an excessive amount of potassium iodide.

No. 29699, Z-322. Sample of Tr. Iodine manufactured and sold by John Dekruif & Co., 1000 Grandville Ave., Grand Rapids. Iodine 7.0 gms., potassium iodide 10.5 gms. per 100 cc. Contains an excessive amount of potassium iodide.

No. 29864, Z-326. Sample of Tr. Iodine manufactured and sold by F. M. Fisk, Cassopolis. Iodine 5.965 gms., potassium iodide 6.723 gms. per 100 cc. Low in iodine and contains an excessive amount of potassium iodide.

No. 29866, Z-328. Sample of Tr. Iodine manufactured and sold by Sheldon Coleman, Lawton. Iodine 8.8 gms., potassium iodide 11.17 gms. per 100 cc. Contains an excessive amount of iodine and potassium iodide.

No. 29868, Z-330. Sample of Tr. Iodine manufactured and sold by F. N. Maus, Kalamazoo. Iodine 7.0 gms., potassium iodide .68 gms. per 100 cc. Low in potassium iodide.

No. 29901, Q-373. Sample of Tr. Iodine manufactured and sold at Belvidere Pharmacy, 2210 Gratiot Ave., Detroit. Iodine 5.63 gms., potassium iodide 2.581 gms. per 100 cc. Low in iodine and potassium iodide.

No. 29971, Z-331. Sample of Tr. Iodine manufactured and sold by Geo. F. Fairman, Big Rapids. Iodine 10.9 gms., potassium iodide 8.413 gms. per 100 cc. Contains an excessive amount of iodine and potassium iodide.

No. 29975, Z-355. Sample of Tr. Iodine manufactured and sold by G. K. Whiting, Union City. Iodine 2.79 gms., potassium iodide 1.212 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30030, Q-378. Sample of Tr. Iodine manufactured and sold by Geo. T. Cimini, 568 Rivard St., Detroit. Iodine 3.14 gms., potassium iodide 1.423 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30032, Q-380. Sample of Tr. Iodine manufactured and sold by F. L. Schloeder, 1157 Chene St., Detroit. Iodine 5.07 gms., potassium iodide 5.172 gms. per 100 cc. Low in iodine.

No. 30034, Q-382. Sample of Tr. Iodine manufactured and sold by J. C. Berridge, 525 Saginaw St., North Flint. Iodine 11.16 gms., potassium iodide 1.425 gms. per 100 cc. Contains an excessive amount of iodine and is low in potassium iodide.

No. 30035, Q-383. Sample of Tr. Iodine manufactured and sold by Zimmermann & Ottaway, Flint. Iodine 8.3 gms., potassium iodide 2.921 gms. per 100 cc. Contains an excessive amount of iodine and is low in potassium iodide.

No. 30138, Z-341. Sample of Tr. Iodine manufactured and sold by N. T. Eckberg, Grand Rapids. Iodine 3.376 gms., potassium iodide 1.333 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30141, Q-394. Sample of Tr. Iodine manufactured and sold by the Excelsior Pharmacy, 358 St. Antoine St., Detroit. Iodine 5.356 gms., potassium iodide 3.062 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30146, Q-399. Sample of Tr. Iodine manufactured and sold by A. P. Young, 153 Grand River Ave., Detroit. Iodine 5.889 gms., potassium iodide 5.0 gms. per 100 cc. Low in iodine.

No. 30185, Z-345. Sample of Tr. Iodine manufactured and sold by S. J. Heimbach, Constantine. Iodine 5.965 gms., potassium iodide 1.513 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30186, Z-346. Sample of Tr. Iodine manufactured and sold by the Robinson Drug Co., Lansing. Iodine 5.965 gms., potassium iodide 4.062 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30187, Z-347. Sample of Tr. Iodine manufactured and sold by E. L. Robertson & Son, Lansing. Iodine 6.1229 gms., potassium iodide 4.354 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30294, Q-405. Sample of Tr. Iodine manufactured and sold by

A. D. Burnham, 807 McGraw, Detroit. Iodine 2.71 gms., potassium iodide 5.831 gms. per 100 cc. Low in iodine.

No. 30295, Z-349. Sample of Tr. Iodine manufactured and sold at Wests Drug Store, 93 Monroe Ave., Grand Rapids. Iodine 5.281 gms., potassium iodide 5.713 gms. per 100 cc. Low in iodine.

No. 30299, Z-353. Sample of Tr. Iodine manufactured and sold by E. J. Fletcher, 758 S. Division Ave., Grand Rapids. Iodine 5.3306 gms., potassium iodide 3.133 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30303, Z-357. Sample of Tr. Iodine manufactured and sold by P. Corey Taylor, Mt. Pleasant. Iodine 5.914 gms., potassium iodide 1.663 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30351, Q-407. Sample of Tr. Iodine manufactured and sold by R. G. Mitter, 1167 Warren West, Detroit. Iodine 4.4 gms., potassium iodide 2.961 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30352, Q-408. Sample of Tr. Iodine manufactured and sold at Belvedere Pharmacy, 2210 Gratiot Ave., Detroit. Iodine 7.0 gms., potassium iodide 3.404 gms. per 100 cc. Low in potassium iodide.

No. 30418, Z-371. Sample of Tr. Iodine manufactured and sold by B. A. Hoxie & Son (Central Drug Store), Grand Rapids. Iodine 1.9 gms., potassium iodide 6.412 gms. per 100 cc. Low in iodine.

No. 30489, Q-411. Sample of Tr. Iodine manufactured and sold by A. W. Branch & Co., Reading. Iodine 5.9144 gms., potassium iodide 3.6 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30495, Q-417. Sample of Tr. Iodine manufactured and sold by the Robinson Pharmacy, 517 Hastings St., Detroit. Iodine 5.6332 gms., potassium iodide 7.327 gms. per 100 cc. Low in iodine and contains an excessive amount of potassium iodide.

No. 30497, Q-419. Sample of Tr. Iodine manufactured and sold by the Excelsior Pharmacy, 358 St. Antoine St., Detroit. Iodine 5.217 gms., potassium iodide 3.019 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30539, Z-380. Sample of Tr. Iodine manufactured and sold by Louis F. Storz, 1233 Plainfield Ave., Grand Rapids. Iodine 4.45 gms., potassium iodide 6.871 gms. per 100 cc. Low in iodine and contains an excessive amount of potassium iodide.

No. 30542, Z-383. Sample of Tr. Iodine manufactured and sold by J. W. Kramer, Holland. Iodine 6.371 gms., potassium iodide 3.233 gms. per 100 cc. Low in iodine and potassium iodide.

No. 30585, Q-421. Samples of Tr. Iodine manufactured and sold by J. M. Godfrey, 81 Eighteenth St., Detroit. Iodine 6.4729 gms., potassium iodide 3.812 gms. per 100 cc. Low in iodine and potassium iodide.

TINCTURE NUX VOMICA.

No. 28532, Q-220. Sample of Tr. nux vomica manufactured and sold by C. W. Thomas, Wyandotte. Low in strychnine.

TINCTURE OPIUM.

No. 28127, Unofficial. Sample of laudanum. Product is low in morphine. Not U. S. P.

No. 29098, Q-281. Sample of Tr. opium manufactured and sold by E. L. Moore, Minden City. Low in morphine.

No. 29100, Q-283. Sample of Tr. opium manufactured and sold by the Minden City Pharmacy, Minden City. Low in morphine.

No. 29170, Q-288. Sample of Tr. opium manufactured and sold by M. W. Moore, Sandusky. Low in morphine.

T. T. CODEINE SULPHATE.

No. 30133, Z-338. Sample of $\frac{1}{2}$ gr. Compressed Tablets Codiene Sulphate manufactured by Nelson, Baker & Co., Detroit, and sold by F. J. Chamberlain, Carson City. Codiene sulphate per tablet .96 grain. Sample contains an excessive amount of codeine sulphate.

T. T. MORPHINE SULPHATE.

No. 28962, Z-209. Sample of T. T. morphine sulphate $\frac{1}{8}$ gr. manufactured by Nelson, Baker & Co., Detroit, and procured from James A. Skinner, Cedar Springs. Not in conformity with statement of label. Low in morphine.

NITROGLYCERINE.

No. 28274, Q-190. Sample of nitroglycerine 1/100 manufactured by Lambert & Lowman, Detroit, and procured from H. E. Mudge, 1269 Harper Ave., Detroit. Nitroglycerine none.

No. 29097, Q-280. Sample of nitroglycerine 1/100 manufactured by J. F. Hartz Co., Detroit, and procured from C. E. Pettit, Harbor Beach. Does not conform to statement on the label. Nitroglycerine none.

No. 29682, Q-367. Sample of T. T. nitroglycerine 1/100 manufactured by F. A. Thompson & Co., Detroit. Adulterated for the reason that its strength or purity falls below the professed standard or quality under which it is sold. Misbranded in that the label on the package bears a statement which is false or misleading.

No. 29684, Q-369. Sample of T. T. nitroglycerine 1/100 manufactured by Nelson, Baker & Co., Detroit. Adulterated for the reason that its strength or purity falls below the professed standard or quality under which it is sold. Misbranded in that the label on the package bears a statement which is false or misleading.

SYRUP FERROUS IODIDE.

No. 29002, Q-251. Sample of syrup ferrous iodide manufactured by Peck, Johnson Co., Grand Rapids, and procured from L. W. Curtis, Elsie. Low in ferrous iodide.

ZINC OXIDE OINTMENT.

No. 28070, Z-133. Sample of zinc oxide ointment manufactured and sold by the H. L. Bird Drug Co., Benton Harbor. Not U. S. P. Low in zinc oxide.

No. 28082, Q-171. Sample of zinc oxide ointment manufactured by the Aetna Chemical Company, Detroit, and procured from the Hendrick Pharmacy, 1229 Hastings St., Detroit. Not U. S. P. Low in zinc oxide.

No. 28995, Z-220. Sample of zinc oxide ointment manufactured and sold by R. W. Cochrane, Kalamazoo. Low in zinc oxide.

No. 29218, Z-254. Sample of zinc oxide ointment manufactured and sold by Geo. L. Lage, Holland. Low in zinc oxide.

SUGGESTIONS FOR A BETTER U. S. P. AND N. F. AND DIFFICULTIES ENCOUNTERED IN THE ENFORCEMENT OF THE DRUG LAW IN REGARD THERETO.

BY A. R. TODD, DRUG ANALYST.

The discrepancies in the standards of the U. S. P. and N. F. soon become apparent when an attempt is made to enforce drug laws in which these works are named as standards. It is of course a well known fact that these two books were not originally intended to be standards in the sense that they are now used, but since Congress and many State Legislatures in all their wisdom have seen fit to incorporate the standards laid down by the U. S. P. and N. F. into the law, it becomes necessary for officials charged with the enforcement of the law to use them.

It is the purpose of this paper, therefore, to offer some suggestions based on practical experience as a drug official, which would, in my opinion, vastly increase the worth of the U. S. P. and N. F.

In the first place we need a U. S. P. and N. F. that will be standards in every sense of the word. In order to accomplish this we must have a definite standard for every preparation possible in these two books, as well as accurate methods for assays. In the present U. S. P. there are 961 articles which may be divided into two classes, those that have an assay and those that have not. The class that has an assay may be subdivided into two parts. Those that have an assay for each ingredient and those that have an assay for the principal ingredient.

A resume* of the U. S. P. shows that 29% of the preparations fall in the first class and have an official definition as well as a reliable assay. The other 71% have neither. Of the first class about 1% have an assay for each ingredient and 28% have an assay for the principal ingredient only. Of the latter, viz: those that have an assay for the principal ingredient only Tincture of Iodine is a good example. Potassium Iodide is used in this preparation for two reasons. First, to aid in the solution of the Iodine and second to keep Iodic Acid from forming. Therefore, if Potassium Iodide is such an important ingredient, it would seem that a method for its assay should be incorporated and furthermore the official definition should state the amount of Iodide the finished preparation should contain. Another good example of this same class is Elixir of Iron, Quinine and Strychnine. It is my opinion that this all important preparation needs revising if any does.

Have you ever attempted to calculate the Iron content? The Elixir is made from the Tincture of Citro Chloride of Iron N. F., which is made from the solution of Ferric Chloride U. S. P., which in turn is made from Metallic Iron. Attempt to calculate the Iron content before an average jury and see where you land. Before you get through the judge, jury and even yourself will be disgusted. Then in all probability

* Read at the Meeting of the American Pharmaceutical Association at Nashville, Tenn., Aug. 15, 1913.

the lawyer for the defense will arise and move that the case be dismissed as there is no official standard or official method of assay. It would seem, therefore, that this preparation should at least have an official definition stating the percentage of the principal ingredients that it should contain.

Seidlitz Powders is another important preparation. The U. S. P. says that the blue papers shall contain 10.33 grams and the white 2.25 grams. Now what if the blue papers contain only 9.5 grams and the white 1.9 grams. Shall we condemn the sample or pass it. Here again shows the need of a minimum and maximum standard for the principal ingredients of each and every preparation.

We need more methods of assay and more definitions and if the degree of experimental error or tolerance limit to be expected be given with each method it will save much time and work on the part of the drug officials and be another step towards uniformity. As it is if a U. S. P. or N. F. product is sent in by one of our drug inspectors which the chemist has not analyzed before, he must first try out the method on a number of known samples to see just how much variation he can allow.

Tablets Triturates, it seems, present an obstacle. Since it is impossible to place every triturate in the U. S. P. or N. F. therefore why not have a general provision reading somewhat like the following: "All tablet triturates shall contain that quantity of medicinal substance which is represented on the container thereof."

It is my understanding that the use of the word "About" will be eliminated in the next edition. This I heartily approve of as there has always been and still is a question of just how much variation we must allow on account of this word. In this connection it seems that there are a number of other words or phrases that could very well be eliminated.

In regard to Spirits of Nitre, there seems to be a difference of opinion on the keeping qualities of this product. By experimentation it has been shown many times that this product may be kept in perfect condition for a number of months if kept in accordance with the U. S. P. Therefore, it would seem that the Phrase, "When freshly prepared" could very well be eliminated from the definition.

In conclusion it seems that the crying need of the U. S. P. is a clear, concise definition for each preparation, giving a minimum and maximum standard for the principal ingredients and a method for their determination. I am heartily in favor of converting the U. S. P. into a book of simples and the N. F. into a book of formulas, with provisions for a yearly supplement to each. Further, I believe it might be well to have all methods worked out and adopted by the A. O. A. C. take precedence over the methods of the U. S. P. and after approval by some official body representing the revision committee of the U. S. P. these methods be printed as a supplement to the U. S. P. This would give us an opportunity to use new methods and at the same time feel that they were official, without waiting for the ten year meeting of the revision committee.

Michigan Dairy and Food Department Laboratories,
1913.

A FEW OBSERVATIONS.

From calling on some one thousand druggists of the state, located from the Iron Range in the north to our metropolis in the south, and from conditions varying from a poor old shack in a poor neighborhood, poorly supported, where \$50.00 would be an extravagant figure to place on the entire outfit, to the up-to-date finely equipped palace of pharmacy in one of our largest cities; I have gleaned the following observations:

It seems to me that in a general sense conditions are improving. To be sure, merchandising is on the increase and the once exclusive pharmacy becoming less evident. However, where pharmacy is practiced, it is of a higher grade, more care being exercised in the preparation of standard official remedies and under more sanitary conditions.

In the place of carelessly prepared "Lime Water," "Sweet Spts. of Niter," "Camphor Liniment," "Tincture of Iodine" and the potent tinctures that were common at the beginning of drug inspection, we now have (except in very rare instances, where laziness and ignorance still block progress) strictly U. S. P. articles which are a delight to the eye as well as the smeller of the inspector.

Besides improving the QUALITY of preparations (the object sought in PURE DRUG legislation) drug inspection has done more.

It has awakened in the minds of druggists the necessity of keeping posted on new preparations and changes that take place from time to time in new editions of the U. S. P. and N. F. and never before have we had such a seeking after pharmaceutical knowledge as at the present time. I find almost without exception N. A. R. D. Notes, The Bulletin of Pharmacy, The Pharmaceutical Era, The Druggist's Circular or some one of the good disseminators of Pharmaceutical lore on the desks where I call. If further evidence is needed you have only to ask the dean of the pharmacy department of the U. of M., the secretary of Ferris Institute or other similar institutions regarding inquiries at those places.

Do not think that because the general trend of things is optimistic that we have reached perfection. There are many changes that might be suggested for improving conditions as we find them in many stores.

An important one is sanitation or just common every day cleanliness. I used to tell my "boys" that when they had a graduate or mortar or other utensil sufficiently cleaned that they would be willing to eat their bread and milk from it, it was perhaps clean enough in which to prepare medicines for the sick.

Another place where cleanliness is sometimes wanting is in containers. For example, shelf-bottles for essential oils, syrups, elixirs, etc. How often the lips of such bottles are dirty and bedaubed to such an extent that it is impossible to tell whether the contents are sour and rancid and unfit for use or that it is simply the deposit that could be easily removed by the use of a little alcohol and elbow grease. A store may look bright, well arranged and attractive from the front, but unless the prescription room is tidy and clean, I shall continue to report "condition of store" BAD.

The keeping of crude drugs is often sadly neglected. Reference to roots, herbs, leaves and pressed packages is intended. These are often crowded away into some out-of-way, dirty place in cigar boxes or equally poor containers, poorly labeled, allowed to get wormy and entirely unfit for any use but that of kindling a fire in the furnace. The fact that crude drugs play a much less important role in the ordinary retail drug trade than formerly makes it all the more important that this department receive closer attention. Purchases should be small, bought from reliable sources, kept in proper containers and in the case of potent drugs like Digitalis whose potency is fleeting, purchased at the collecting period. When we are compelled to take our own medicine we are careful to see that it is active and will produce results, and for humanity's sake, when our neighbor is ill should we be less thoughtful for his recovery?

There is no profession or calling in which there is any place for a man without character much less do we want him in ours.

The best informed merchant, the reliable citizen, the people's confident, oftentimes is their druggist and I am proud to report that drug inspection is having its moral effect and that the liquor druggist and dopestier is fast becoming the exception and the new viewpoint will give us a clearer, cleaner vision of a new, progressive and better pharmacy.

M. A. JONES,
Drug Inspector.

AN AMBITION PRODUCER.

BY J. W. HELME.

Some time ago the head of this department picked up a Detroit paper which contained the picture of a full grown man in the act of jumping about four feet high. The picture was supposed to represent a man's feelings and actions after taking a box of Kellogg's Sanitone Wafers made by the F. J. Kellogg Company of Battle Creek, Michigan.

Now the writer has had many moons pass over his head, until by the nature of things he has not only grown old but stout and pudgy and he was naturally attracted by any medicine that proposed to restore his youth to the extent that he could kick up his heels four feet high. So the advertisement was placed in the hands of an employe with instructions to ascertain the facts about this Battle Creek ambition developer. The inquiry brought the always ready testimonials and literature and follow-up letters. Sanitone Wafers were described as the "Greatest nerve vitalizer ever known." Sanitone Wafers are recommended as a remedy for "Insomnia, brain fag, drowsiness, lack of energy, melancholy, hysteria, blue spells, St. Vitus Dance, Locomotor Ataxia, loss of ambition, poor memory, bashfulness, tired feeling and neuralgia." The literature claimed that one box at \$1.00 would, as President Roosevelt would say, make you feel "bully" but the letters claimed that six boxes for \$5.00 were necessary for permanent relief. After a few follow-up letters the price came down to \$3.60. An analysis of these wafers

by the State Chemists showed each tablet to weigh 12 grains. Of this 5 grains formed the outside coating; inside were $5\frac{1}{2}$ grains of Chromium Sulphate, a green pigment used by painters, $\frac{4}{5}$ of a grain of Phenolphthalein, a purgative derived from coal tar, and $\frac{1}{2}$ grain of red pepper.

If anyone thinks that green paint, red pepper and a coal tar product with an unpronounceable name will cure all nervous diseases from bashfulness to St. Vitus Dance, he can get the above formula put up for about $\frac{1}{10}$ of the advertised price. As for the writer he is a "Doubting Thomas" and has no faith in the efficiency of green paint, red pepper and coal tar to restore lost ambition. Rather than paint our insides red and green we prefer to remain nervous and bashful. But we have no objection to other people trying it if they want to.

HOPE FOR THE HOMELY.

BY J. W. HELME.

We don't know what the ladies of the state would do if that eminent philanthropist, Mrs. Mae Martin, should discontinue her "Health and Beauty Hints" to be found in the leading newspapers. Weekly, Mrs. Mae pays out her good money to the leading papers to tell the sisters how to increase and preserve their beauty by using certain "Home made" Remedies that she prescribes.

Next to our old and dear friend, Lydia A. Pinkham, Mrs. Mae Martin appears to be one of the foremost benefactors of her sex; but Mae's great forte is to prescribe external remedies to render lovely women still more lovely.

In a recent issue of one of the leading papers of Michigan an inquirer who signs her name "anxious" and whom it appears is troubled with a prospective crop of whiskers, is answered that "Delatone" will mow off the superfluous growth cleaner than a lawn mower. "Delatone" when analyzed by this department was found to be composed of 80% starch and 20% Sulphide of Barium. It costs about one cent to prepare the amount of "Delatone" Mae recommends, but she has generously fixed it up with the druggist so you can buy this hair exterminator for \$1.00.

"Genevieve" wants a shampoo to clean her hair that she doesn't want to remove, and Mrs. Mae exultingly tells her that "Canthrox" will do the business so nicely that sweet Genevieve will "never again permit the use of soap" on her head. The funny thing about this statement is that "Canthrox" was found by our chemists to consist of soap and sal-soda. Mrs. Mae has arranged with the druggist to sell you a cent's worth of soap and salsoda for 50 cents.

"Auntie," who appears to be having trouble with her liver, is losing her strength, complexion and weight, is informed that that "old fashioned Kardene Tonic" is just the checker. One ounce of "Kardene" dissolved in alcohol makes it. "Kardene" was found on analysis to be composed of Iron and Ammonium Tartrate, Tartaric Acid, Quinine and Sugar. Mrs. Martin assures "Auntie" that it "will make you weigh just

what you want to." What lady could refuse to use "Kardene" in the face of this statement?

"Lucy" has ruined her complexion by too much powder (whether gun powder or insect powder she does not specify) but in any event Mae assures Lucy that "Spurmax"—6 ounces dissolved in witch hazel and glycerine, will give a "rosy blush and velvety smoothness and bring back the healthy glow of youth to the aged, weather-marred and powder ruined skin." Why should "Lucy" hesitate after this effusion, especially as the "Spurmax" will only cost her 50 cents. Our chemists found "Spurmax" to consist of scented and colored Epsom Salts. Epsom Salts cost Mae three cents a pound. "Lucy" pays at the rate of \$1.33 per pound for it under the name of "Spurmax." But then you know "Mae" has to have some extra money to pay advertising bills.

"Jennie" has some irritation of the scalp and wants relief. Now being a mere man, the writer, if Jennie had appealed to him, would probably have prescribed insect powder. But Mrs. Mae with that wonderful intelligence that she possesses of all female beauty troubles, tells "Jennie" than an ounce of "Quinzoin" dissolved in alcohol and water will not only remove the irritation but will also bring "a beautiful growth of long silken hair." We would try this ourselves, only "silken hair" wouldn't match the balance on our head. "Quinzoin" which sells for 50 cents and costs 2 cents is composed of Baking Soda 40%, Quassia 58%, Quinine 2%.

"Annice" has sure got some real troubles. She wants something to "banish the wrinkles, round out the hollows and restore natural beauty." "Annice" is assured that all she has to do to bring about this simple result is to dissolve some "Almozoin" in water and glycerine and apply the solution to the hated facial defects and—"Presto Change"—"Almozoin" only sells for 50 cents and costs 5 cents to make. Our analyst found it to consist of Borax 40%, Magnesia 20% and Gum Tragacanth 40%.

Mrs. Mae has got a few more "zoiners" and "maxes," etc., which "reduce flesh," "restore graceful lines to the form" and perform other miracles.

We haven't space to tell you about them now, but we can only wonder how any Michigan woman can be other than beautiful as long as Mae Martin and her Beauty Column appear weekly in the newspapers.

A CURE FOR DISAPPOINTED LOVE.

BY J. W. HELME.

Advertisements of the Ensign Remedies Company at Battle Creek, Michigan, attracted the attention of this department some time ago and an employe was instructed to answer the "ad." The literature sent him in response consisted of two booklets extolling the virtues of the Ensign Remedies.

The Ensign Remedies in these booklets are recommended for all the diseases, mental and physical, that men and women are heir to and then some; the only disease we can think of that is not mentioned in the book being "political itch."

Among the diseases specifically recommended for treatment by the Ensign Remedies are Deafness, Barber's Itch, Goitre, Gray Hair, Bunions, Cancer, Bow Legs, Lock Jaw, Ingrowing Toenails, Toothache, Tuberculosis, Small Pox, Warts, Worms, Rheumatism, Paralysis, Rupture, Mumps, Tobacco Habit, Epilepsy, Cross Eyes, Cataract, Emaciation and Corpulency. The various remedies have all the same outward appearance. Each consists of a small vial holding 4 drams containing small white pellets about the size of a mustard seed. The price is \$1.00 per vial and six pellets is a dose. The different remedies which are to be taken internally are distinguished from each other by numbers and letters.

A distinguishing feature is the use of internal remedies for mental diseases. According to their booklet if you are bashful you should take Remedy 186 A. If you have delusions that you see animals and reptiles, you should take 187 A and B, but if you only see persons and people then 187 E and F is the proper thing. If you have a religious delusion that you are "lost and damned," the book says take 187 L and M, but if you only "despair of your soul's salvation," take 188 E and F.

For stage fright the book recommends 205 A and B. If you are disappointed in love you are also advised to take 205 A and B, but if you are married and your wife is jealous, give her 195 A and B. If the hired man is lazy and lacks ambition, the book recommends 196 A and B, but if he is only "obstinate and unreasonable" give him 199 A and B. If you have a general tendency to commit suicide, take 202 A and B, but if the tendency is to suicide by the razor route, the book advises 202 E and F, but if you prefer the gun route, then the book advises 202 G and H.

What are these remedies that cure everything from Cancer to Corpulency; from Disappointed Love to Ingrowing Toenails? In the literature it is called the "Biochemic Treatment."

Ensign says "whatever is sufficient to build a human body is sufficient to keep it in repair." The Booklet says, "The Ensign Remedies are composed of Food Stuffs and substances necessary to every human body." The Booklet also states "These Remedies are to be relied on in the most dangerous ailments. The Appropriate Remedy will relieve pain more quickly and certainly than the most powerful drug."

The booklet also states "Remember you are not taking medicine, but absolutely essential material, which will be used if needed and thrown off as waste if it is not."

Our drug analyst sent for the respective cures for Appendicitis, Hay Fever and Pneumonia. His analysis of each remedy showed each to be composed of 100% sugar. We doubt the efficacy of sugar as a cure for love sickness where the system is already over-clogged with sweetness. Perhaps it might do for Jealousy or Irritable Dispositions. Anyhow if residents of Michigan want to try the sugar cure for all diseases, let us suggest that instead of buying the Ensign Remedies at \$1.00 per vial, which is at the rate of \$59 a pound for sugar, that they take as much sugar as can be held on the point of a pen knife three times per day. It will probably accomplish fully as satisfactory results. It is only fair to state that the Ensign Remedy Company claim to us that the potency of the medicine in these sugar tablets is so great that it is impossible for our drug analyst to find it by any known methods of analysis. We leave the reader with an open mind to decide this question.

FAKES AND FRAUDS

On Patent Medicines, Commercial Preservatives, Stock Tonics, Etc.

BY J. W. HELME.

The Great American Fraud, as Samuel Hopkins Adams styles the patent medicine business, has been practiced on the American public for the past 20 years. Prior to the passage of the Food and Drugs Act seven years ago and prior to the work done by the American Medical Association and the articles in Collier's by Samuel Hopkins Adams, it was an easy matter to sell rain water and sugar for a cure for any disease under the sun and at most any price that the manufacturers cared to charge. Since then the road has not been quite so easy for these quacks but it is still far too easy and until the Federal Government and all the states have passed laws similar to the advertising law enacted by the last Legislature of Michigan the business will continue to flourish.

A great deal of good work has been done in enlightening the public on these matters. The newspapers that take these ads are becoming scarcer each year. The Medical Associations on both sides of the Atlantic are co-operating with each other in disseminating knowledge and state and federal authorities are finding time among their many varied duties to lend a helping hand. However, it would be a comparatively easy matter to eliminate the major part of the whole thing if we could deprive the quacks and nostrum vendors of the printer's ink. It is amusing to see some of the newspapers so interested in this or that piece of legislation which might affect some poor taxpayer, or clamoring about the white slave traffic or the law's delay, etc., and at the same time carry a fake medicine ad in the same issue. But thanks to many of the leading newspapers of today who have discarded this kind of advertising and who help throw the spotlight on some of these things, the public are gradually waking up, they are finding out what those nostrums and quacks are and how they are being swindled by them. Some of these fakes that have been examined by this Department appear below.

Alamozoin, Beautifier. Contains Borax 40%. Carbonate of Magnesia 20%. Powdered Tragacanth 40%. Estimated cost 5 cents. Selling price 50 cents.

Amarol. Epsom Salts 95%, Borax 5%. Estimated cost one cent. Selling price 75 cents.

Am-o-Tone. Perfumed Borax. Estimated cost 5 cents. Selling price 75 cents.

Balmwort. Glycerine, Potassium, Acetate and Extractives.

Barkola. Glycerine, Potassium, Acetate and Licorice. Estimated cost 5 cents. Selling price 50 cents.

Calocide Compound. To be used in a foot bath. Contains Borax 62%, Salt 17.5%, Alum 1%, Tannin 11.5%, Moisture 8%.

Canthrox. Shampoo. Consists of Soap and Sal Soda. Estimated cost one cent. Selling price 50 cents.

- Cardiol.* Mixture of fluid extract of Senna and Cascara Sagrada.
- Cerol.* Stearic Acid, Borax, Perfume. Estimated cost 5 cents. Selling price 75 cents.
- Citrox.* Photographers' Hypo 95%, Borax 5%. Selling price 50 cents. Estimated cost 1 cent.
- Crystos.* Boric Acid 60%, Borax 20%, Salt 20%. Selling price 50 cents. Estimated cost 5 cents.
- Delatone.* Hair remover. Starch 80%. Sulphide of Barium 20%. Estimated cost one-half cent. Selling price \$1.00.
- Doan's Kidney Pills.* Oil of Juniper, Saltpetre, Pitch, Starch and Fenugreek.
- Dr. William's Pink Pills.* Contain Green Vitriol, Carbonate of Potassium, Oxide of Magnesium, Licorice and Sugar.
- Ensign Remedies.* Appendicitis Cure (a) 100% Sugar. (b) 100% Sugar. Hay Fever Cure (a) 100% Sugar. (b) 100% Sugar. Pneumonia Cure (a) 100% Sugar. (b) 100% Sugar. Selling price \$1.00 each. Estimated cost 1 mill.
- Eppotone.* Contains Epsom Salts 52%, Borax 48%, Perfume. Selling price 50 cents. Estimated cost 2 cents.
- Essence Mentho-Laxene.* A mixture in Alcohol and water of Licorice, Menthol and Ammonium Chloride. Selling price 75 cents. Estimated cost 10 cents.
- Flowers of Ozzoin.* Zinc Oxide 13.5%, Glycerine 15%, Rose Water 71.5%. Colored with Cochineal.
- Fluff Powder.* Consists of sugar and gelatine.
- Fluid Balmwort.* Contains Potassium Acetate, Extract Buchu, Compound Syrup of Sarsaparilla and Alcohol 16%.
- Fluvol.* Consists of Starch 10% and Barium Sulphide 90%. Estimated cost 5 cents.
- Gauss Catarrh Elixir.* Alcohol 14.25%, Sugar 22.2%, Vegetable Extract 1%, Water 62.55%. Selling price \$5.00.
- Gloria Balm.* An ordinary greaseless cream. Selling price 25 cents. Estimated cost 2 cents.
- Gloriol Emollient Cold Cream.* An ordinary cold cream. Selling price 50 cents. Estimated cost 5 cents.
- Gloriol Glowene.* Consists entirely of a soft soap. Selling price 25 cents. Estimated cost 2 cents.
- Gorham's Catarrh Remedy.* Contains Alcohol 8%, Sugar 25%, Water 67%. Balm consists of vaseline and a small amount of menthol. perfumed with oil of wintergreen. Selling price \$5.00. Can make a gallon for 55 cents.
- Hairwand.* Consists of Salt, Borax, Sodium Salicylate. Very small amount of pink coloring matter and Lilac odor. Selling price 50 cents. Estimated cost 2 cents.
- Kardene.* Contains Iron and Ammonium Tartrate, Tartaric Acid, Quinine and Sugar.
- Kellogg's Sanitone Wafers.* Contain Chromium Sulphate 81.2%, Phenolphthalein 11.08%, Oleo Resin of Capsicum 7.72%.
- Kulux Compound.* Zinc Carbonate, Starch, Water, Perfume. Selling price 50 cents. Estimated cost 5 cents.
- Liquocide.* Sulphuric Acid 0.75%, Sulphurous acid 0.55%, Water 98.7%. Estimated cost one cent. Selling price 50 cents.

- Lung Germine.* Alcohol 15.0%, Sulphuric Acid 14.2%, Ferric Sulphate 0.5%, Water about 70%. Estimated cost ten cents. Price \$5.00.
- Luxor.* Contains Alum, Boric Acid, Zinc Oxide. Selling price 50 cents. Estimated cost 5 cents.
- Magic Foot Drafts.* Consists of oil cloth covered with a mixture of poke root, tar and Balsam. Estimated cost $\frac{1}{3}$ cent. Selling price \$1.00.
- Make-Man Tablets.* Arsenic, Iron Carbonate, Vegetable extracts.
- Marmola.* Fat reducer. Contains Phenolphthalein, Calcium Carbonate, Starch, Licorice, Thyroid Gland, Oil of Wintergreen, Bladderwrack.
- Mayatone.* Epsom Salts 97%, Borax 3%.
- Mayr's Stomach Remedy.* Olive Oil, Powder No. 1, Effervescent Epsom Salts. Powder No. 2, Rochelle Salts.
- Mercolized Wax.* Zinc Oxide, Ammoniated Mercury, White Vaseline.
- M.I.S.T.* Licorice, Aloes, Cascara. Selling price \$1.00.
- Mother's Friend.* Consists of Cottonseed Oil and Soap. Selling price \$1.00. Estimated cost 10 cents.
- Nature's Creation.* Alcohol 6%, Potassium Iodide 7.4%, Vegetable Extracts 5.59%. Estimated cost 30 cents. Selling price \$5.00.
- Dr. Edwards Olive Tablets.* Consist entirely of Extract of Aloes in pill form.
- Optoma.* Consists of Sodium Carbonate and Boric Acid. Selling price 50 cents. Estimated cost 2 cents.
- Oxidaze Tablets.* Sugar 84.23%, Starch 8.64% Volatile Oils (Balsam) 7.13%.
- Plain Yellow Minyol.* Salt 72.5%, Soap 8.5, Water 19%. Selling price 25 cents. Estimated cost 3 cents.
- Pyroxin.* Vaseline, perfumed. Estimated cost 5 cents. Selling price \$1.00.
- Quinzoin.* Baking Soda 40%, Quinine 2%, Quassia 58%. Estimated cost 2 cents. Selling price 50 cents.
- Saxolite.* Wrinkle remover. Contains Epsom Salts 40%, Alum 60%. Estimated cost one cent. Selling price 75 cents.
- Spurmax.* For making face lotion. Colored and scented Epsom Salts. Retail at 50 cents. Estimated cost one cent.
- St. Jacobs Oil.* Consists of Alcohol 10%, Ether 9%, and Turpentine 81%.
- Sulfo-Solution.* Superfluous Hair Remover. Sodium Sulphide 2.5%, Water 97.5%. Retail at \$1.00. Estimated cost $\frac{1}{3}$ cent.
- Therox.* Dry Shampoo. Consists entirely of Borax. Selling price 75 cents. Estimated cost 5 cents.
- Tiz.* For making foot-bath. Composed of Alum and Tannin. Perfumed with Orris Root.
- Tona-Vita.* Sherry wine containing about 10% Extract of Beef. Selling price \$1.25 per pint.
- Tonsiline.* Consists of Ferric Chloride 1.6%, Potassium Chlorate 1.31% and alcohol 6.3%. Selling price 50 cents. Estimated cost 7 cents.
- Torris Compound.* Composed of Sugar, Saltpetre and Sodium Salicylate. Selling price 50 cents. Estimated cost 2 cents.
- Tuberculozyne.* Consumption Cure. No. 1 contains Glycerine, Oil of Cinnamon, Coal tar dye. No. 2 contains glycerine, Oil of Bitter Almonds, Sugar, color and water. Selling price \$10.00.

Vilane Powders. Catarrh Cure. Contains common salt 40%, Baking Soda 35%, Borax 15%, Salicylate of Soda 10%. Selling price 50 cents. Estimated cost 2 cents.

Vc-nos-ol. Consists of Cocoa Butter colored red. Selling price 75 cents. Estimated cost 15 cents.

Wendell's Ambition Salts. Consists of Tartaric Acid, Sodium Carbonate and Sodium Sulphate. Selling price 50 cents. Estimated cost 7 cents.

Zintone. Skin Beautifier. Composed of Stearic Acid, Soap, Borax perfumed. Selling price 50 cents. Estimated cost 5 cents.

EGG SUBSTITUTES.

Cook's Concentrated Substitute for Eggs. Consists of Baking Powder, Starch and a coal tar dye.

Egg-o-Let. Analysis given on label:

Moisture	7.75%
Ash	1.81%
Protein	18.2 %
Ether Extract	26.25%
Crude Fibre .....	.46%
Nitrogen-Free Extract	45.54%

Our analysis:

Moisture	5.75%
Ash	3.70%
Protein	11.64%
Ether Extract	4.1 %
Crude Fibre .....	.45%
Nitrogen-Free Extract	74.36%

Egg Save. Starch 80%, Casein 2%, Water 18%. Colored with a coal tar dye.

Egg Saver. Robert Blumer's. Contains cornstarch colored with a coal tar dye.

COLORS.

Color for Sausage. Coal tar dye. Used to color Bologna Sausage.

Confectioner's Yellow Color. Coal tar dye. Used to color cakes, etc.

Gallagher's Egg Color. Coal tar dye. (Similar to confectioner's color).

MISCELLANEOUS.

Cream Pie Filling. Consists of corn starch, sugar and flavoring.

Lemon Pie Filling. Consists of corn starch, sugar, citric acid and lemon flavoring.

Lemon Pie Filling. Starch 54.13%, Sugar 35.00%, Citric Acid 3.2%, Moisture 7.67%.

Our Pie Preparation. Cornstarch, Meat, Sugar, Lemon flavoring.

Pie Filling Compound. Consists of corn starch, citric acid and small amount of sugar.

Price's Canning Compound. Boric Acid 94.86%, Salt 4.6%, Benzoate of Soda .38%. Selling price 10 cents per ounce. Can be made from the above analysis for 17 cents per pound.

Snow Mellow. A mixture of corn starch and gelatin.

Stewart's Magic Washing Crystal. Contains paraffin with small amount of rosin.

STOCK TONICS

In recent years agricultural papers have been filled with advertisements of various stock tonics which are claimed to very materially benefit the health of live stock on the farms. These stock tonics, as a general rule, are composed of a filler made of various cereals or linseed oil meal mixed with salt, charcoal and small quantities of various drugs. Experiments as to the benefit of stock tonics have been made by various stations. Wherever careful experimental trials have been made under expert and disinterested supervision—and there have been a great many such made in this and other countries—the outcome has invariably shown that the use of condimental feeds as feeds was unprofitable and without material effect on production, whenever the animals to which the product was fed were at the outset in good healthy condition.

Analyses of some of the leading varieties of stock foods and tonics now upon the market as made by this department are as follows:

Dr. Hess' Poultry Panacea. Contains Salt 14%, Hypo 4.3%, Copperas 3.7%, Saltpetre 8.25%, Calcium Carbonate (ground oyster shells) 20%, Iron Oxide (mineral paint) 6.2%, Quassia 3%, Ground Cereal 33%, Nux Vomica Trace, Moisture 7.55%.

Dr. Hess' Stock Tonic. Contains Moisture 4.5%, Salt 40.5%, Saltpetre 3.5%, Copperas 3.0%, Epsom Salts 5.0%, Glauber Salts 2.5%, Charcoal, Quassia, Fenugreek, Nux Vomica 10%, Ground Cereal 31%.

Dr. Holland's Medicated Salt. Contains Salt 93%, Copperas 2.5%, Saltpetre 1.0%, Iron Oxide 1%, Charcoal 2.0%, Quassia 0.5%. Selling price 3 pounds 25 cents. Estimated cost 2½ cents.

Newton's Heave Cure. Calcium Carbonate 60%, Lime 20%, Magnesium Oxide 8%, Iron Oxide 8%, Antimony Oxide 2%, Aluminum Oxide 2%.

Sal-Vet. Common salt 95%, Charcoal, Copperas, Drugs 5%. Selling price \$5.00 per 100 pounds. Estimated cost 75 cents.

The following analyses are taken from reports made by a large number of experiment stations throughout the United States showing the composition of some of the leading varieties of stock foods and tonics:

"International Stock Food, International Stock Food Co., Minneapolis, Minn.—Wheat offals, flaxseed meal, gentian, pepper, ginger, charcoal, salt.

"Pratt's Animal Regulator, Pratt Food Co., Philadelphia, Pa.—Wheat offals, anise, fenugreek, gentian, salt, ginger, corn meal, charcoal, Epsom salts.

"Pratt's Conditioner, Pratt Food Co., Philadelphia, Pa.—Oil meal, wheat offal and salt.

"Pratt's Egg Producer.—Wheat product, linseed meal, red pepper, sulphur, Calcium carbonate, Glauber salts, Venetian red, gentian and wild seeds."

If a farmer really thinks that these stock foods or tonics will benefit

his animals, we recommend that he make his own from the following mixtures:

The Maine station suggests: Pulverized gentian, one pound; pulverized ginger, one-quarter pound; pulverized saltpetre, one-quarter pound; pulverized iron sulphate, one-quarter pound. Mix; feed tablespoonful in feed once daily for ten days; omit three days; feed as above for ten days more.

The Iowa station suggests: "Fenugreek, 8 pounds; ginger, 8 pounds; powdered gentian, 8 pounds; powdered sulphur, 8 pounds; saltpetre, 8 pounds; resin, 8 pounds; cayenne pepper, 4 pounds; linseed meal, 44 pounds; charcoal, 20 pounds; common salt, 20 pounds; wheat bran, 100 pounds." It further says that "this mixture is so near the average stock food that neither the farmer nor stock could tell the difference;" that it should cost less than 5 cents a pound; that a tablespoonful *would not* put his stock on the market in 30 days' less time, nor double the flow of milk, prevent cholera in hogs, abortion in cattle, roup in chickens, and glanders in horses," but that it would be "extremely inexpensive" and worthy of "as much credit in other ways as any of its class."

The Iowa station also suggests this simple mixture, the preceding one being offered apparently largely for the purpose of matching up the medley of materials usually employed by manufacturers for this purpose:

"Powdered gentian, 1 pound; powdered ginger, 1 pound; fenugreek, 5 pounds; common salt, 10 pounds; bran, 50 pounds; oil meal, 50 pounds."

"COMMERCIAL PRESERVATIVES."

Manufacturers of preservatives have reaped a rich harvest from the meat dealers of Michigan by leading these people to believe that they have some wonderful preservative which no chemist can detect or that their product is in strict conformity with the state law. They unload upon them either a simple mixture of salt, saltpetre and spices at a great big price or a dope containing a forbidden preservative which the innocent meat dealer uses and as a consequence he stands liable to prosecution.

Chilling Powder. Preservative composed of common salt, *Sulphite of Soda** and *Salicylic Acid.**

Condimentine "A." Contains Saltpetre, salt and pepper.

Condimentine "B." Contains saltpetre, salt and coloring matter.

F.L.P. Common salt and saltpetre.

Freezem Pickle. Saltpetre and salt.

Freezem. Saltpetre, Sodium Sulphate and *Sulphite of Soda.**

Icine. Contains saltpetre, Sodium Sulphate and *Sulphite of Soda.**

I.X.L. Saltpetre, Sodium Sulphate, *Sulphite of Soda.**

Konservirungs Salz. Boric Acid* and Salt.

O. K. Pickle. Salt and Saltpetre.

Preservaline "C." Saltpetre, Salt and Borax.*

XXX Preservaline. Saltpetre, Sodium Sulphate, *Sulphite of Soda.**

Seasonine "A." Saltpetre, Salt, Boric Acid,* Pepper and Celery.

Special Seasonine. Salt, Saltpetre and Spices.

Special 77. Salt, Saltpetre, Benzoate of Soda.†

* Italics indicate substances not permitted by the Food Department.

† Permitted when declared on the label.

Zero. Saltpetre and *Sulphite of Soda*.*

Zero Pickle. Common Salt and Saltpetre.

XXX Enterprise Preservative. Sodium Bisulphite.

HINTS TO CONDENSED MILK USERS.

One of the greatest triumphs of the age is the successful evaporation and condensing of milk so that wherever man journeys, whether in the poles or in the tropics, the lacteal fluid of the cow can always be procured.

It is unfortunate, however, that some manufacturers of condensed milk have been so extravagant in the claims of their product as to seriously affect human life. Most manufacturers give on their cans a formula for extending their milk with water which sometimes makes it appear to be cheaper than the natural product.

Ordinary milk from the average cow contains about 12% total solids of which $3\frac{1}{2}\%$ is butter fat and the balance casein, albumen and milk sugar. This Department purchased several cans of milk on the open market and diluted the same with water until the solution equaled normal milk, having a 3 % butter fat content which is the legal standard in Michigan. Such milk was found to cost as follows per quart for the following brands: XXXX, ten cents per quart, Van Camp's Pet and Premier brands, seven and one-half cents per quart. Nu-way, seven cents per quart, Leader, ten cents per quart and Eagle Brand, twelve cents per quart. All of these milks before dilution contained less than 10% butter fat, while the legal standard for commercial cream is 18%.

Condensed milks are therefore rather dearer than ordinary milk in most cities. It is the convenience, not the cheapness of condensed milk that should appeal to the consumer. The directions for infant feeding on some of these cans are very misleading. Take the Eagle brand, one of the best known to the trade. It gives on the can directions for infant feeding as following: One month old dilute 1-14. This would give the baby milk containing about $6\frac{1}{2}\%$ total solids which would have in it less than 1% (.82) butter fat. Normal human milk and cow's milk are about the same, 12% total solids with $3\frac{1}{2}\%$ butter fat. Is not a milk containing less than 1% butter fat too thin for a growing babe? Further directions on the can are dilute 1-12 for second month. This would give a butter fat of less than 1% (.93). The third month a dilution of 1-10 is recommended. This gives 1.10% butter fat, less than one-third of normal milk. For a babe 10-13 months old a dilution of 1-6 is recommended. Even this only gives a butter fat content of $1\frac{3}{4}\%$, about half that of normal milk.

We believe these dilutions are much too thin for babies.

The last Michigan legislature passed a law requiring condensed milk manufacturers in the future to label the can with a formula that when extended will be equal to the standard of legal milk in Michigan.

HIRSUTE FERTILIZERS.

BY J. W. HELME.

When the Lord of Creation visits the barber shop weekly to have the hair removed from his chin and encouraged on his topknot, he is confronted by a row of bottles on the barber's stand labeled "Eau De Quinine," "Herpicide," etc., all of which the barber recommends as a fertilizer for the human dome to reforest the barren areas thereon.

For swatting a small handful of this on the customer's head, the barber charges from 10c to 15c. Some mathematical sharp has figured it up that at 15c a swat the barber clears the tidy sum of \$48 on each gallon of dope he disposes of. Some people would think this was a fair profit, but a concern doing business under the name of The Avondale Co., in Detroit, has devised a scheme to give the barber even more profit. This concern advertises a series of imitations of the leading hair restorers at a much less price per gallon. They sell "O. D. Q. Nine" as an imitation of the imported Eau De Quinine, "Hurpoline" as an imitation of Herpicide, and so on through the list. Some barbers take these cheaper imitations and put them in the original bottles of the higher priced dopes, thereby increasing their profits at the expense of the customer's ignorance. Naturally, makers of the high-priced articles complained of this system, which is a violation of the drug laws of the state. When barbers were threatened with prosecution for using these preparations for the originals, the Avondale Co. came back by sending out a circular which in part reads as follows:

"To begin with, as most barbers know, manufacturers of dandruff cures, hair growers, etc., are fakers. They can't grow hair nor cure dandruff—and they know it.

"They defraud the public through lying advertisements and, we are told, they are now trying to force barbers to continue the using of their high-priced, fake goods through a 'bluff' stand-bottle system, which they say is backed up by the law.

"Are fakers backed up by the law? WE SHOULD SAY NOT. Laws were made to put fakers out of business, and not for their protection. Hair tonic fakers are legal outcasts—same as gamblers, quack doctors, or the slot machine grafters.

"Any time hair tonic fakers talk of prosecuting barbers because they substitute lower priced products for high priced fakes, they're bluffing—GIVE THEM THE SLOT MACHINE LAUGH.

"Fakers dare not go to court; they're at your mercy and could be put out of business, themselves, by the very laws they claim protect them—and they know it. NOW, THEN, SAVE A COUPLE OF 'BUCKS' ON YOUR NEXT ORDER.

"Barbers are asked to patronize the Avondale Co. because we sell 'good stuff' and sell it at a reasonable price."

This will be interesting reading to the bald and near bald. The Avondale Co. virtually says "All hair restorers and dandruff cures are fakes. We sell you something equally as good at a less price."

We are inclined to think this statement is correct. If there was any medicine that would cure bald heads, would we smooth pates endure the shots of the girls at the burlesque shows when we sit on the front seats? Never! Not if \$10 worth of hair grower would produce a second growth pasture on top of our cerebellums. The Avondale dopes are probably as efficient as any in getting a man's money without delivering the goods. Barbers are warned, however, that if Avondale or other goods are placed in bottles of other manufacturers, they invite prosecution under the drug laws.

To be sure, the "Avondale Co." agrees to protect their customers, but the Secretary of State's office shows there is no such company as the "Avondale Co." Such a company was incorporated on June 12, 1911, but it filed a dissolution notice on Nov. 20, 1911, and has not had a legal existence since that time. Its guarantee, therefore, is as worthless as it admits its products to be.

There is just one sure cure for bald heads and that is to wear a wig or be a woman.

SOME MORE BEAUTY HINTS.

BY J. W. HELME.

Some time ago this Department issued a bulletin dealing with various beauty remedies which could be prepared at home and which were running in various Michigan newspapers by Mrs. Mae Martyn. Mrs. Mae Martyn purported to answer various mythical correspondents in regard to their alleged needs for improving their style of beauty, both physically and mentally. Since the issuance of that bulletin, Mrs. Mae Martyn seems to have dropped off of the map so far as Michigan newspapers are concerned, and the field is now being occupied by the "Home Beauty Parlor" of Betty Dean. We are not privileged to have the acquaintance of Betty, but from looking over her effusions of home made beauties, they sound just like the same ones that Mrs. Mae Martyn was putting over on us. There is Spurmax, Canthrox, and Getrox, and all the other various lines. Perhaps Mrs. Martyn after using her superlative toilet articles was able to marry some sardine and thus change her name. At any event, in the language of the Bible, "While the hands are the hands of Esau, the voice is the voice of Jacob."

A correspondent who signs herself "Mayme" complains to Betty that she is rapidly getting as big as a balloon and the same shape, and she wants something to bring her down to her normal weight. Betty has the something and advises her to put 4 oz. of Parnotis in one and one-half pints of water and take a tablespoonful before meals. She assures her that this will bring her avoirdupois down to the exact weight she wants it without any dieting or undue exercise. Parnotis, of course, has to be obtained at the drug store. It costs you 50c under that name, but if you will get 3 oz. of baking soda and 1 oz. of sodium sulphate and mix and dissolve, you will have Parnotis at the cost of about 5c, which will cost you 50c if obtained at the drug store.

Another correspondent is troubled with failing eyesight. She com-

plains that her eyes are dull and dim and she wants something to brighten them up. Betty has the something that will make the eyes bright and shining and relieve all soreness of the same. Absolutely "safe and inexpensive." All you have to do is to get an ounce of "Crystos" and dissolve it in a pint of water and apply two or three drops daily. The result is supposed to make your eyes as bright as Henry Waterson's star-eyed Goddess of Reform. Crystos is to be obtained at the drug store for 50c. It is composed of Boric acid, 60%; common salt, 20%, and borax, 20%. For less than 10c you can get a sufficient amount to make you "bright eyes" for 40 years, providing the stuff works. We trust Betty will not change her name again after this bulletin appears, because it keeps us guessing to recognize her under her various nom de plumes.

WEIGHTS AND MEASURES.

(ACT NO. 168, PUBLIC ACTS, 1913.)

An act to provide for a state superintendent of weights and measures, state, county and city sealers and inspection of weights and measures, prescribing their powers and duties, providing penalties for fraud and deception in the use of false weights and measures and confiscation thereof, and repealing sections four thousand eight hundred eighty-two to four thousand eight hundred ninety-seven, inclusive, of the Compiled Laws of eighteen hundred ninety-seven.

Section 1. *The People of the State of Michigan enact*, The weights and measures received from the United States under a resolution of congress approved June fourteen, eighteen hundred thirty-six and such new weights and measures as shall be received from the United States as standard weights and measures in addition thereto or in renewal thereof, and such as shall be supplied by the state in conformity therewith and certified by the national bureau of standards, shall be the state standards, by which all county and municipal standards of weights and measures shall be tried, proved and sealed.

Sec. 2. The state dairy and food commissioner by virtue of his office shall be state superintendent of weights and measures during his term of office. His deputy shall be deputy superintendent of weights and measures and all inspectors appointed by the dairy and food commissioner shall be state inspectors and sealers of weights and measures.

Sec. 3. The superintendent of weights and measures shall take charge of the standards adopted by this article as the standards of the state, and cause them to be kept in a safe and suitable place in the office of the superintendent, from which they shall not be removed except for repairs or for certification, and he shall take all other necessary precautions for their safe keeping. He shall maintain the state standards in good order and shall submit them at least once in ten years to the national bureau of standards for certification. He shall at least once in five years try and prove by the state standards all weights, measures and other apparatus which may belong to any county or city, and shall seal such when found to be accurate, stamping on them the letter "C"

and the last two figures of the year, with seals which he shall have and keep for that purpose. He shall have and keep a general supervision of the weights, measures and weighing and measuring devices offered for sale, sold, or in use in the state. He shall, upon the written request of any citizen, firm, corporation or educational institution in the state test or calibrate weights, measures, weighing or measuring devices, and instruments or apparatus used as standards in the state. He, or his deputy, or inspectors, by his direction, shall at least once annually test all scales, weights and measures used in checking the receipts and disbursements of supplies in every institution for the maintenance of which moneys are appropriated by the legislature, and he shall report in writing his finding to the supervisory board and to the executive officer of the institution concerned, and at the request of such board or executive officer the superintendent of weights and measures shall appoint in writing one or more employes then in the actual service of each institution, who shall act as special deputies without extra compensation for the purpose of checking the receipts and disbursements of supplies. He shall keep a complete record of standards, balances and other apparatus belonging to the state and take a receipt for same from his successor in office. He shall annually on the first day of July make to the governor a report of the work done by his office. The state superintendent, or his deputy or inspectors, at his direction, shall inspect all standards and apparatus used by the counties and cities at least once in five years and shall keep a record of the same. He or his deputy or inspectors, at his direction, shall at least once in five years visit the various cities and counties of the state in order to inspect the work of the local sealers, and in the performance of such duties he may inspect the weights, measures, balances, or any other weighing appliance of any citizen, firm or corporation, and shall have the same power as the local sealer of weights and measures. The superintendent shall issue from time to time, regulations for the guidance of city and county sealers, and the said regulations shall govern the procedure to be followed by the aforesaid officers in the discharge of their duties.

Sec. 4. The board of supervisors of each county and the commissioner or common council of each city, who may, in their discretion, appoint a sealer under this act, shall procure at the expense of the county or city, and shall keep at all times, a complete set of weights and measures and other apparatus of such material and construction as said superintendent of weights and measures may direct. All such weights, measures, and other apparatus having been tried and accurately proven by him, shall be sealed and certified to by the state superintendent as hereinbefore provided; and shall then be deposited with and preserved by the county or city sealer as public standards for such county or city.

Sec. 5. The board of supervisors of each county may, in its discretion, appoint a county sealer of weights and measures in each county for a term of two years. He shall be paid a salary to be determined by said board, and no fee shall be charged by him or by the county for the inspection, testing, or sealing of weights, measures, or weighing or measuring devices; where not otherwise provided by law, the county sealer shall have the power within his county, and the state superintendent, his deputies and inspectors, within the state, to inspect, test, try, and ascertain if they are correct, all weights, scales, beams, measures

of every kind, instruments or mechanical devices for measuring, and tools, appliances and accessories connected with any and all such instruments or measures kept, offered or exposed for sale, sold or used or employed within the county by any proprietor, agent, lessee or employe in proving the size, quantity, extent, area or measurement of quantities, things, produce, articles for distribution or consumption offered or submitted by such person or persons for sale, hire or award; and they shall have the power to and shall from time to time weigh or measure packages or amounts of commodities of whatsoever kind kept for the purpose of sale, offered for sale, or sold or in the process of delivery, in order to determine whether the same contains the amount represented, and whether they be offered for sale or sold in a manner in accordance with law. The county sealer shall at least once each year, and as much oftener as he may deem necessary, see that the weights, measures, and all apparatus used in the county are correct. The county and state inspectors may, for the purpose above mentioned and in the general performance of their official duties, enter or go in upon, and without formal warrant, any stand, place, building, or premises, or stop any vendor, peddler, junk dealer, coal wagon, ice wagon, delivery wagon, or any dealer whatsoever, and require him, if necessary, to proceed to some place which the sealer may specify, for the purpose of making the proper tests. Whenever the county sealer or state inspectors find a violation of the statute relating to weights and measures, they shall cause the violator to be prosecuted. Whenever any sealer or inspector compares weights, measures, or weighing and measuring instruments and finds that they correspond, or causes them to correspond, with the standards in his possession, he shall seal or mark such weights, measures, or weighing or measuring instruments with appropriate devices to be approved by the state superintendent of weights and measures. The county sealer shall keep a complete record of all of his official acts and shall make an annual report to the board of supervisors and an annual report duly sworn to on the first day of July to the state superintendent of weights and measures on blanks to be furnished by the superintendent. The county sealer of weights and measures shall forthwith on his appointment give a bond in the penal sum of one thousand dollars, with sureties to be approved by the appointing power, for the faithful performance of the duties of his office: Provided, however, That nothing in the above shall be construed to prevent two or more counties from combining the whole or any part of their districts, as may be agreed upon by the board of supervisors, with one set of standards and one sealer, upon the written consent of the state superintendent of weights and measures. A county sealer appointed in pursuance of such an agreement for such combination shall, subject to the terms of his appointment, have the same authority, jurisdiction, and duties as if he had been appointed by each of the authorities who are party to the agreement.

Sec. 6. Any incorporated city in this state may, in its discretion, appoint a city sealer of weights and measures under this act. He shall be appointed by the mayor, by and with the advice and consent of the common council. He shall perform in said city the duties and have like powers as the county sealer in the county. In those cities in which no sealer is appointed as above, the county sealer of the county, if there be one, shall perform in said cities the duties and have like powers as in the county: Provided, however, That nothing in the above

shall be construed to prevent any county and a city situated therein from combining the whole or any part of their districts as may be agreed upon with one sealer, subject to the written approval of the state superintendent of weights and measures. A sealer appointed in pursuance of an agreement for such combination shall, subject to the terms of his appointment, have the same authority, jurisdiction and duties as if he had been appointed by each of the authorities who are parties to the agreement.

Sec. 7. Any person who, by himself, or by his servant or agent, or as the servant or the agent of another, shall offer or expose for sale, sell, or use, or retain in his possession, a false weight or measure or weighing or measuring device or any weight or measure or weighing or measuring device which has not been sealed by the sealer of weights and measures within five years, in the buying or selling of any commodity or thing, or for hire or reward; or who shall dispose of any condemned weight, measure or weighing or measuring device contrary to law, or remove any tags placed thereon by the sealer of weights and measures; or any person who, by himself or by his servant or agent, or as the servant or agent of another, shall knowingly sell or offer or expose for sale less than the quantity he represents, or sell or offer or expose for sale any such commodity in a manner contrary to law; or any person who, by himself or by his servant or agent, or as to the servant or agent of another, shall sell or offer for sale or have in his possession for the purpose of selling, any device or instrument to be used to, or calculated to, falsify any weight or measure, shall be guilty of a misdemeanor, and shall be punished by a fine of not less than twenty dollars nor more than one hundred dollars, or by imprisonment for not more than three months, or by both such fine and imprisonment upon first conviction; but upon a second or subsequent conviction, he shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, or by imprisonment in the county jail for not more than one year, or by both such fine and imprisonment.

Sec. 8. The superintendent of weights and measures, his deputy, inspectors, and the county and city sealers of weights and measures are hereby made special policemen, and are authorized to seize, for use as evidence and without formal warrant, any false or unsealed weight, measure, or weighing or measuring device or package or amounts of commodities, found to be used, retained or offered or exposed for sale or sold in violation of law.

Sec. 9. Any person who shall hinder or obstruct in any way the superintendent of weights and measures, his deputy or inspectors, or any county or city sealer, in the performance of his official duties, shall be guilty of a misdemeanor, and shall be punished upon conviction thereof, in any court of competent jurisdiction, by a fine of not less than two nor more than two hundred dollars, or by imprisonment in the county jail for not more than ninety days, or by both such fine and imprisonment.

Sec. 10. Any person who shall impersonate in any way the superintendent of weights and measures, his deputies, inspectors, or any county or city sealer, by use of his seal or otherwise, shall be guilty of a misdemeanor and shall be punished by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment

in the county jail for not more than ninety days, or by both such fine and imprisonment.

Sec. 11. Sections four thousand eight hundred eighty-two, four thousand eight hundred eighty-three, four thousand eight hundred eighty-four, four thousand eight hundred eighty-five, four thousand eight hundred eighty-six, four thousand eight hundred eighty-seven, four thousand eight hundred eighty-eight, four thousand eight hundred eighty-nine, four thousand eight hundred ninety, four thousand eight hundred ninety-one, four thousand eight hundred ninety-two, four thousand eight hundred ninety-three, four thousand eight hundred ninety-four, four thousand eight hundred ninety-five, four thousand eight hundred ninety-six and four thousand eight hundred ninety-seven, of the Compiled Laws of eighteen hundred ninety-seven, relative to weights and measures, are hereby repealed.

MONTHLY LETTERS TO WEIGHTS AND MEASURES INSPECTORS.

BY BURR B. LINCOLN, DEPUTY DAIRY AND FOOD COMMISSIONER.

The Dairy and Food Department will send out monthly letters to the weights and measures men for the purpose of keeping in touch with them and we want the different city and county officials to confer with us about the problems that they will have to solve in the future. Several new sealers have been appointed whom we are glad to welcome to our weights and measures family.

This month I wish to call attention to the dry and liquid measures. If you will turn to page 18 of the Instructions to Weights and Measures Officials published by this department and which you may have on application, you will notice that the Dairy and Food Commissioner has set the minimum diameters of dry measures. There are a great many different types of these measures on the market and if we do not adhere to the standards set as far as the diameter is concerned, there will not be much change on the manufacturer's part in conforming to the standard measure. The new officials, and possibly some of the old ones, will find it to their advantage if they will go direct to the hardware stores, wholesale grocers and other dealers who sell measures and stamp both the dry and liquid measures that conform to the law and if those dealers' measures are not legal, they will take the matter up with the manufacturer. Our department would like to have the sealers send in the names of any manufacturers who are not making legal measures with the date of the invoice so we can take the matter up direct with them.

Some of the new sealers may not understand why we have set the diameter so wide. They will find a large number of narrow, bottomless measures and narrow measures of other types on the market which, owing to the narrow diameter, it is very hard to heap on potatoes, apples, etc., sufficient to get the legal weight, while the standard set by the department will hold the legal weight if heaped enough. The new officials will also find a large number of dealers who are using liquid quarts for

dry commodities such as cranberries, beans, etc. Now liquid measures are to be used solely for liquids and all such dry commodities are to be measured in dry measures. Give a strong warning to all such dealers and prosecute if the offense is repeated.

There has been some controversy of late relative to the law governing the use of measures in this state. The state law provides that all articles of food shall be sold by weight, measure or numerical count, and that only those products shall be sold by numerical count which cannot be sold by weight or measure. All food, not liquid, if sold by measure, shall be sold by standard dry measure, the quart of which contains 67.20 cubic inches.

We have endeavored to regulate the method of sale of many commodities and also correct certain abuses that were tolerated and sanctioned by custom previous to the passage of the Weights and Measures Law. It has been customary for merchants to buy beans and other commodities by weight and sell them by the liquid quart measure, thus either intentionally or unintentionally taking from their customers 10 to 15% of what was their due, which is in direct violation of the law. In a liquid quart there are 57.75 cubic inches, or 9.45 cubic inches less than a dry quart.

Referring to an experiment made at the office of the Dairy and Food Department on Jan. 21st, we find that a liquid quart of beans was $2\frac{3}{8}$ ounces short of the legal requirement for a quart of beans, which is one pound fourteen ounces, and that a stricken dry quart of beans was about $1\frac{3}{4}$ ounces over the legal requirements. At this rate the liquid quart would beat the consumer about $4\frac{3}{4}$ pounds on a bushel, while the dry measure would beat the grocer about $3\frac{1}{2}$ pounds per bushel.

So much misunderstanding has arisen as the result of using measures in selling nuts, seeds and vegetables, that the only safe way for the merchant to be within the law, give the buyer his just dues and protect his own interests, is to weight these commodities instead of measuring them.

The following are the weights of certain commodities as fixed by Michigan statutes:

- Forty-eight pounds for a bushel of apples;
- Sixty pounds for a bushel of wheat;
- Fifty-six pounds for a bushel of rye;
- Fifty-six pounds for a bushel of shelled corn;
- Seventy pounds for a bushel of corn on the cob;
- Fifty pounds for a bushel of corn meal;
- Thirty-two pounds for a bushel of oats;
- Forty-eight pounds for a bushel of buckwheat;
- Sixty pounds for a bushel of beans;
- Sixty pounds for a bushel of clover seed;
- Forty-five pounds for a bushel of timothy seed;
- Fifty-six pounds for a bushel of flax seed;
- Forty-four pounds for a bushel of hemp seed;
- Fifty pounds for a bushel of millet or Hungarian grass seed;
- Fourteen pounds for a bushel of blue grass seed;

Fourteen pounds for a bushel of red top seed;
Forty-eight pounds for a bushel of barley;
Twenty-two pounds for a bushel of dried apples;
Twenty-eight pounds for a bushel of dried peaches;
Sixty pounds for a bushel of potatoes;
Fifty-six pounds for a bushel of sweet potatoes;
Fifty-four pounds for a bushel of onions;
Fifty-eight pounds for a bushel of turnips;
Sixty pounds for a bushel of peas;
Forty pounds for a bushel of cranberries;
Twenty-eight pounds for a bushel of dried plums;
Forty-six pounds for a bushel of castor beans;
Fifty-six pounds for a bushel of Michigan salt;
Eighty pounds for a bushel of mineral coal;
Fourteen pounds for a bushel of orchard grass seed;
Thirty-three pounds for a bushel of osage orange seed.

Owing to the fact that the state's new Weights and Measures Law carries with it no appropriation whatever for its enforcement, it necessarily limits the number of persons who are available to give this matter attention and limits the amount of work that the department is able to do. The Deputy Dairy and Food Commissioner with his other duties is in charge of this branch of the department work. There has been one inspector assigned to assist him, together with such other assistance in the office as can from time to time be spared in helping out in testing the different equipments of cities and counties which come to us. The available force has been busy during the months of January and February testing the equipments of various cities and counties, starting the new sealers at work, and testing measures that manufacturing firms sent to the department for the purpose of ascertaining whether or not they would pass state inspection.

In January and February we lent assistance to the following named sealers: Lieutenant Ed. Austin of Detroit, George A. Hawkins of Bay City, George Eldridge of Adrian, Volney A. Ripley of Sault Ste. Marie, Walter W. Dean of Traverse City, C. G. Wuellner of Menominee, Pat Connors of Matchwood and R. G. Elliott of Munising. The following equipments were tested: 40 fifty-pound weights for the City of Lansing, a part of Flint's equipment and the complete equipments of the cities of Adrian, Kalamazoo, Muskegon, Saginaw, Detroit and Grand Rapids, together with the equipments of the counties of Menominee, Bay, Alger and Chippewa. Measures were tested for the following named manufacturing firms: Stuber & Kuch, Peoria, Ill.; Cordley & Hayes, New York; Martin Mfg. Co., Mason City, Iowa, and Geuder, Paeschke & Frey Co., of Milwaukee.

The different weights and measures officials and food inspectors have authority to weigh all commodities bought and sold. A number of officials examine the scales very carefully but do not spend as much time as they should in reweighing articles. The functions of a weights and measures official is to see that the people who are selling and buying give and get just weights and measures, and the most important part of his work is to see that right weight is given and to particularly seek

out the unscrupulous dealer and keep after him until he reforms. The unscrupulous dealer who under-weighs or measures, not only beats the people who deal with him, but is enabled to cut or raise prices, depending on whether he is buying or selling, making it hard for his competitors to keep him from getting their business.

I want to call your attention to Section 7 of the Weights and Measures Law, which reads in part as follows:

"Any person who by himself or his servant or agent or as the servant or agent of another, shall knowingly sell or offer for sale less than the quantity he represents....."

In starting court cases be very careful of that word "knowingly." Get the dealer or servant in the presence of a witness to admit he knows the amount of the commodity. For illustration, take potatoes. If the customer is buying a peck, ask the dealer if he knows a peck should weigh 15 pounds, etc., or else inform him before starting a suit. A case won is a wonderful help in enforcing the law, while a case lost is a drag. Don't be afraid to start suits. You cannot enforce the law without them.

The Moneyweight Scale Co. of Chicago sells scales for the Dayton Company of Ohio. In the past years they have sold two types of Dayton scales known as Numbers 61 and 63. The charts on those scales are wrong. The Moneyweight Scale Co. had an injunction issued against Lieutenant Austin of Detroit, enjoining him from condemning these scales. The case was carried to the Supreme Court. The Moneyweight Scale Co. won on the ground that the state law did not give a city authority to condemn charts. The courts of Massachusetts and Ohio rendered strong decisions against the Dayton 61 and 63. Our law provides for the testing of computing charts in the following words in section 5, "appliances and accessories connected with any and all such instruments." We are going to condemn the Dayton 61 and 63 and are going to ask you to do so for the following reasons: That while the scale may show the correct weight, the computing chart does not always indicate the correct money value of the commodity weighed. If you will notice the first two or three columns, the values are repeated, and if you will make some experiments by placing the weights on the scale—1 oz. at 30c a pound will give you 4c, etc.

The state inspectors will give the dealer his choice of painting the inside of the glass black which exposes the money values and leaves the weight indications clear, or of putting in a correct chart, or getting a new scale.

One of the County Weights and Measures officials sent in an inquiry of how to obtain the aluminum seals that are used to seal computing scales. As nearly all computing scales have no place upon which to stamp, the only other way that they can be stamped without lead seals is by sticking a sticker on them. As the mucilage on the sticker is apt to dry and thus cause the sticker to fall off, the proper way to seal them is with aluminum lead seals and a wire. As the dies for making these

seals cost \$25, the cities and counties probably will not feel like investing in one. The state already has one on hand and we will furnish the seals to the sealers of weights and measures at the approximate cost, which will be about \$8.80 per thousand, and whatever the cost of transportation will be. This does not include the wire. Please send orders direct to the Dairy and Food Department.

Self measuring pumps for kerosene and gasoline should not be sealed unless the adjusting nut is covered with a cap, as without a cap it gives the dealer a chance to manipulate it if he should so desire. The Bowser people agree to furnish the sealers with these sets of seals at from 5 to 6c a pump, and the sealers can then re-sell them. If the local sealers so desire, they can buy these seals of the Bowser people and re-sell them. Take the matter up direct with S. F. Bowser & Co., Inc., Ft. Wayne, Ind.

The Weights and Measures Department will be glad to hear from you at any time in regard to any of the problems which confront you. Watch for this month's bulletin.

The half gallon measure most commonly used by housewives when sending for syrup, molasses, vinegar, etc., is probably the two-quart, so-called, fruit can put out by Ball Bros. Mfg. Co. These for years have been considered a standard half-gallon measure, and always the careful housewife has felt that when she used one she had her money's worth. In Northern Michigan they are used in large numbers for putting up maple syrup and sell for a full half gallon.

Recently this department had occasion to suspect that these, like some other things on the market, were a little shy, and several tests were made resulting in the discovery that these cans are just one-half pint short or one pint to the gallon. Look back through all the long years and make a rough estimate of the half-pints of vinegar, molasses, syrup, etc., for which you have paid, but which, alas, were never yours.

A letter from Ball Bros. states that they are making these cans the same as for the past thirty years and that they have always been called "one-half gallon." Shakespeare would have found that in this day and age there is something "in a name." in this case dollars and cents for the dealer and an equal loss to the buyer.

Can that can!

Here is something else to think about:

The big packing houses are wrapping their hams and bacon in heavy paper and selling them to local dealers with the paper weighed in. This runs from two to eight ounces to the piece, or, as the department was informed by one butcher, about four pounds of paper to the hundred pounds of meat. In the past, many charges have been made against the large packers for illegal practices, but this is one of the smoothest skin games (literally and figuratively) yet worked. The local dealer should weigh the paper and deduct the amount from his bill. Then the packers would soon save him that trouble.

P. S.—Since writing the above we have received a letter from Ball Bros. Glass Mfg. Co. in which they state that they have decided to change the molds of their one-half gallon fruit jars to full size. We are very glad they decided to do this without further trouble, but if you

send a fruit jar to the store to be filled, be very sure it holds the required amount.

To the Manufacturers and Users of Fruit Baskets, Boxes, Hampers and Packages:

Many inquiries reach this office as to what we are going to do about peach and other fruit packages, baskets, boxes and hampers, etc. After carefully looking up the matter, the department has decided to rule that the provisions of Section 3, Act N. 162, Public Acts of 1913, shall apply to the above. The law reads that "If in package form, every package, box, basket or other container, must bear the true net measure, etc." The term "if in package form" is held to mean any box, basket, package, hamper, etc., the contents of which cannot be readily seen or inspected when such package is prepared for market, that is, that all of the different styles of fruit packages covered with netting or otherwise, which are shipped to any point in Michigan and offered for sale there, shall be stamped plainly on the outside with the true net measure in terms of quarts or parts of a bushel. As the Federal people are also demanding this for interstate shipments, it can be done for both. This department will stop the sale of any fruits sold unless this is done.

Yours truly,

BURR B. LINCOLN,

Deputy Dairy and Food Commissioner.

IS THERE A HOLE IN YOUR POCKETBOOK?

The average person who does the family marketing seldom gives a moment's thought as to whether or not he is getting "value received" in weight and measure for his money. Right here is the cause of one of the greatest leakages in the family purse, and one which, if plugged up securely with a little precaution in making purchases, would cause the high cost of living to materially decrease.

This booklet has been planned to bring before the buying public some of the abuses which are practiced, sometimes knowingly, sometimes unknowingly, by many dealers. Let's "figger" a little together.

VEGETABLES AND APPLES.

Many merchants use the so-called "stove-pipe" bottomless peck measure, which is high and narrow, for the purpose of selling potatoes, apples and other vegetables. All dry measures, except crates, have to be heaped up to come up to the legal weight in the above commodities; consequently, the less the diameter, the less can be piled upon the measure and while it may have the required cubic inch contents, it will not hold a peck. A bottomless stove pipe peck measure does not hold over 12 lbs. of potatoes, instead of 15 lbs. Here is your problem—get busy.

If a dealer sells 100 bushels per week at \$1 a bushel, how much does

he make by selling them 3 lbs. short to the peck? Do I hear the answer? \$13.00? Right you are, and that dealer has given absolutely nothing in return for that \$13.00.

The use of the bottomless peck and half peck measure is illegal in this state after August 15, 1913.

BERRY BOXES.

There are two ways of selling berries, by the quart and by the box. If you want to know how many berries you are getting, buy them by the quart. The practice by many storekeepers and berry growers of selling short measure berries by the box is a fraud on the consuming public. We should have a law compelling all berries to be sold by the quart or pint. A quart berry box should contain 67.2 cubic inches. We have found that in measuring those berries that are sold by the box they contain from 55 cubic inches to a full quart. The consumer who buys 32 of these boxes that hold 55 cubic inches short 5 9/11 quarts to the bushel fondly thinks she is getting a bushel of berries when in fact she is being defrauded 67c if the berries are selling at 12c a box. Insist on buying your berries by the quart.

FRUIT JARS.

For thirty years the Ball Bros. Mfg. Co. have been putting two quart fruit jars on the market that are one-half pint short. When the average housewife wants two quarts of vinegar, molasses, syrup, milk, etc., she is apt to send a two-quart fruit jar. You want to be sure the jar holds two quarts, as you may be getting beat one-half pint each time they are filled. Figure up yourself what you are losing.

FLOUR.

Flour is the very fibre of the "staff of life," and consequently, more of it is sold than any other commodity. Many millers either through carelessness, intention or ignorance of the fact that their scales are wrong, short weight their flour from two to twenty-four ounces on the 24½ lb. sack. Eight ounces is the average shortage. Figure this up at \$5.25 per bbl. wholesale. To a family of five using 10 bbls. yearly, this means a loss of 40 lbs., or about \$1.07. The mill, turning out 300 bbls. a day, will receive \$32.13 daily, for which the buyer received nothing. You may lie with figures, but figures don't lie. When competition is very keen, unscrupulous millers often cut the price and short weigh accordingly. His competitor must do the same or suffer.

An eighth barrel sack of flour should weight 24½ lbs. without the sack, which usually weighs about 3 ounces.

BEANS AND BERRIES.

Don't allow retail dealers to sell you dry beans, berries or any other dry commodity in a tin (liquid) quart measure. The liquid quart measure holds about ten cubic inches less than the dry quart measure.

After August 15, 1913, all commodities in this state, except liquids, must be sold by dry measure, the quart of which holds 67.20 cu. in. If a dealer sells a bushel of beans in a tin (liquid) quart measure, the

consumer loses five quarts on every bushel. Insist that all commodities you buy except liquids be sold by dry measure.

SOME MORE EXAMPLES.

Shortage.	Commodity.	Price.	Weekly Sale.	Yearly Illegal Profit.
1 oz.	1 lb. butter	.30	500 lbs.	\$500.00
1 "	1 " candy	.40	500 "	690.00
2 "	100 " grain	1.75	2 car loads	1,500.00
10 "	5 " pail lard	.75	500 pails	2,700.00

This does not mean that shortages are confined to the commodities mentioned. Apply the test to everything you buy.

This does not mean that all tradesmen are dishonest.

This does not mean that most tradesmen are dishonest.

This does mean that if you allow one tradesman to sell in this way, honest competitors suffer tremendously.

It means other things which you will have no trouble in figuring out yourself.

WHAT THE RETAILER SHOULD DO.

The retailer is the one nearest the consumer. Purchase your scales, weights and measures only on condition that they are correct.

Purchase only from a hardware dealer or manufacturer who will guarantee that the apparatus will comply with the specifications issued by the State Department of Weights and Measures.

Check the goods received by weighing or measuring.

When you purchase goods don't pay for the wrapping at the price of the commodity.

Be square with your customers and sell only by weight, measure or numerical count; handle only such package goods that are marked to indicate *clearly* the net quantity of the contents of the package.

Pay for what you receive and no more, and no law in the land can require you to pay more.

The great majority of dealers are ignorant of existing conditions. Some own scales which are daily beating them out of a just profit. They also receive short measures from other sections, i. e., berries, 4 qt. short to the bushel. If these are sold full measure for which the customer pays, the dealer loses. Furthermore, there is the competition to meet from the unscrupulous dealer who lowers prices and makes up the difference in short weights and measures. Honest, uniform weights and measures are the only sure safeguard for both dealer and buyer. Ask your supervisor to vote for a County Sealer of Weights and Measures. Keep after him until he does it. It will be public money well spent.

WHAT THE PURCHASER SHOULD DO.

The purchaser should purchase only from dealers who have sealed scales, weights, and measures, and then occasionally check the goods bought and see that they agree with what was ordered. Note whether dry commodities are sold by dry measure or weight, and liquid commodities by liquid measure or weight.

Buy in a careful manner and not in indefinite terms.

When ordering commodities order them by weight, measure or numerical count.

Purchase package goods which are clearly marked on the outside with the net quantity they contain, and thus encourage the manufacturer who is willing to take the purchaser into his confidence and let him know what he is delivering.

Bargains are not always bargains because the apparent price is low.

LEARN TO READ A SCALE.

It is very important that you should know how to read a scale. This you can only do by looking carefully at each scale that you see.

It is unfortunate, but nevertheless, true, that the housewife in reading a scale has an absolute disregard for the ounce graduations. The average woman simply observes the pound, quarter pound and half pound markings on the scale, and short lines between these indications always pass her unnoticed, but they do not, however, pass the merchant unnoticed. A housewife will go into a butcher shop and ask for "about 2 pounds of steak." The butcher, of course, cannot gauge accurately in cutting meat to the extent of an even pound or two pound, but cuts as near to the amount asked for by the woman as he can. He then places it upon the scale, and instead of saying to the purchaser "Two pounds 3 oz." he will call out the amount he is going to charge for the meat, and the average purchaser rests content with this. Our advice to the housewife is to insist upon the butcher saying just how much it weighs, and not how much it costs.

When you buy a quart of potatoes by the dry measure, or any other vegetable, the law requires that you get heap measure. This means that the measure itself must not only be full to the brim, but it must be heaped in the shape of a cone as high as the commodity itself will permit.

* * * * *

A set of household standards that should be in the possession of every well regulated household are the following:

A good scale about 10 lbs. capacity which will weigh to ounces sealed by the weights and measures official.

A peck measure.

A dry quart measure.

A liquid quart measure.

A 60-inch steel tape, and

An 8-ounce glass graduate.

* * * * *

To be absolutely fair with your merchant, the scale you buy should be as good a type as you can afford. The reason for this must be obvious to you. Since you are judging the honesty of your merchant by the reweighing of his commodity on your scale, you should be absolutely sure that your scale is right lest you should misjudge an innocent and honest person.

A FEW DON'TS.

Don't allow your grocer to weigh in the wooden butter dish when he is weighing your butter. These butter dishes frequently weigh in ac-

cordance with their size, from an ounce to three ounces. You will observe some of them very prettily decorated with tin on the edge. Remember if they weigh these in they are selling you the tin and the wood at the price of butter.

Don't order a "pail of lard," "thirty cents worth of potatoes" a forty-cent steak," "a dime's worth of butter," "a piece of bacon," "a package of cereal," "a jar of jelly," "a bottle of olives," "a can of oil," "a package of seed," "a roll of picture wire," "a box of nails," etc., unless you know what that pail, box, piece, package, paper, print, cake, etc., is.

Don't hesitate to notify this department if you have any suspicions whatever of the merchant with whom you are doing business. Your relations with this department can be as confidential as you choose to make them. Always remember that while perhaps you individually may be able to stand these petty losses in your trading, that there are poorer people who are dealing with the same merchant who cannot so readily stand the loss as you can, and by informing this department of any dishonesty on the part of your tradesman, you will be protecting these poorer people against the thefts of the dishonest tradesman. Do not, however, be too ready to condemn the tradesman. The honest merchant in Michigan is in the majority.

Tradesmen make mistakes and clerks make mistakes. A mistake need not always be a dishonest one. Let this department know your trouble, and we can judge very promptly whether the shortage has been the result of a mistake or dishonesty.

TO THE PUBLIC.

The last legislature passed a law providing for weights and measures officials in state, county and city. Those of the county and city being optional. The Dairy & Food Department has but a small force and at best can get over but a small portion of the state each year. If you want to help correct this evil, start an agitation for a Sealer of Weights the Measures in your county or city, one who will be constantly "on the job." Remember that the reports from every official at work, show an unbelievable per cent of weights and measures to be wrong.

The conclusion of the whole matter.

If the State of Michigan carries out the system as planned for weights and measures with the State, County and City Sealers, we shall know just where we stand and vast sums of money will be saved to the common everyday buyer and seller. Every bordering state has an efficient inspection along this line. Let us make up now for past delinquencies and Plug the Leaks in the Pocket-book.

FIRST ANNUAL REPORT
OF THE
State Superintendent of Weights and Measures
OF THE
STATE OF MICHIGAN
FOR THE
YEAR ENDING JUNE 30, 1914

JAMES W. HELME,
State Superintendent of Weights and Measures.

BURR B. LINCOLN,
Deputy Superintendent of Weights and Measures.

Hon. Woodbridge N. Ferris, Governor:

In compliance with Act No. 168, Public Acts 1913, I hereby submit the first annual report of the Weights and Measures Division of the Dairy and Food Department for the year ending June 30, 1914.

I desire to call your attention to the past history of Weights and Measures in Michigan. The only law we had prior to the present one was passed in 1836, giving the State Treasurer charge of Weights and Measures, and making each County Clerk Sealer in his county, allowing him a fee of three cents for each scale sealed. I cannot find that any County Clerk took advantage of these fees to get rich.

The law also provided that cities could appoint Sealers and of this provision a few cities took advantage, namely, Detroit, Grand Rapids, Battle Creek, Kalamazoo, Port Huron, Muskegon, Ludington, Cheboygan, Adrian, Saginaw and Flint. In some of these cities the Sealer had some other official duties to attend to and the Weights and Measures work was not looked after as it should be, consequently the conditions were nearly as bad as though none had been appointed.

The present law designates the Dairy and Food Commissioner as Superintendent of Weights and Measures. The law provides that the Superintendent of Weights and Measures shall issue from time to time, regulations for the guidance of city and county sealers, which the old law did not. Acting under the old law each Sealer used his own judgment on the amount of tolerance allowed and the type of scales and measures permissible. One Sealer in summing up the situation expressed himself by saying, "I used my horse sense on the amount of tolerance allowed." If all of the Sealers used their horse sense, there was a big difference in the results obtained, or in the horse sense used. The Dairy and Food Department has been working with the different Sealers endeavoring to have them do uniform inspecting, and the Sealers have responded royally with one or two exceptions.

Wisconsin, Ohio, New York and Indiana have State Inspection of Weights and Measures. The officials of those states inform us that Michigan has been the dumping ground for the types of scales and measures that wouldn't bear inspection in their respective states. Now that the law has taken effect, we are getting rid of those types as fast as possible.

The present law took effect August 14, 1913. The Dairy & Food Department was not able to take up the enforcement of it at once, for the reason that the law provides that our state standards shall be tested for their accuracy by the National Bureau of Standards. We shipped what standards this state then possessed and were suitable to the Bureau, and the one-half bushel, quart and two quart measures which had been the standard of Michigan for years, were rejected, making it necessary to buy new ones. We bought \$2,286.95 worth of further equip-

ment from W. & L. E. Gurley Company of Troy, New York. Such of the new equipment as it was necessary for the Bureau of Standards to test and seal, was sent there but we were unable to secure our standards back from the Bureau before the last of December, consquently there was not any work done until that time except the examination of a number of scales owned by the Sugar Beet Companies.

We quickly found on account of the length of time it took to test out the scales and measures of the average store that, having all of the Food Inspectors carry Weights and Measures equipment, would result in the very lax inspection of the foods. The Inspectors would have to devote the larger share of their time to inspection of scales to accomplish anything in that line, and food inspection would suffer accordingly. Therefore, the Deputy Commissioner devoted the greater share of his time to the work and in the middle of January, 1914, D. A. Nichols was detailed to devote his time working at Weights and Measures; on March 15, R. E. Woodruff was assigned to the work in place of Nichols. Our work has consisted largely of going into cities and counties where local Sealers had been appointed and work with them, bringing about a uniform inspection of Weights and Measures. This method proved very successful. We have tested out the equipment of ten cities and seven counties, comparing them with our State standards. This has been done largely by E. H. Shuler. All three of the gentlemen mentioned above have numerous other duties to perform for the Department. We have carried on a great many experiments and looked into all complaints and any spare time has been spent in inspecting the Weights and Measures of places where conditions were bad, as the complaints stated.

It took considerable time to draw up the rules and specifications for Sealers, some of which will have to be changed as experience has shown us the error of some of these specifications, and changing conditions demand it. We have also issued from time to time Bulletins to the Sealers which will be found attached to this report.

The present law makes the appointment of County Sealers optional with the Boards of Supervisors of the several counties. Only eight counties have taken advantage of it, St. Clair County appointing a County Sealer, combining the appointment with the City of Port Huron, making in all nine County Sealers. These counties are as follows: Bay, Chippewa, Grand Traverse, Menominee, Washtenaw, Ontonagon, Alger, Iosco, St. Clair and Alpena.

There is a necessity for having the present law strengthened by making some provision so that the many counties making up a great section of Michigan which do not have any Weights and Measures inspection now be cared for and have Inspectors do thorough work inspecting weights and measures and also keeping a vigilant eye on the weighing and measuring commodities. As an illustration, I want to call your attention to the fact that Inspector Woodruff visited Big Rapids and tested out the wagon scales there and of the nineteen scales tested, he condemned sixteen. This casts no reflection on the dealers of that city, as many of those scales might be under-weighing or working against the dealer. The average dealer is very careless with his scales, the mechanical construction of which is such that they require constant care the same as and other piece of machinery. About the only way to tell whether they are working right is by testing them with weights.

One of the great evils the unscrupulous dealer practices is to sell commodities by the box, basket, crate, bag, etc., instead of by measure or by weight. For illustration, berries are advertised and sold by the box, instead of the quart. These boxes generally hold a liquid quart, instead of a dry quart, which makes a difference of $4\frac{1}{2}$ quarts to the bushel. The average housewife thinks these boxes hold a full quart. I am informed through a verbal opinion of the Attorney General's Department, that where commodities are sold by the box, basket, etc., and the buyer does not ask for a stated amount, it constitutes a valid contract. So much fraud is practiced in this way of doing business, that some states have incorporated the words "in writing" after the words "special agreement," in the statute putting the dealer to the trouble every time he sells commodities not of a standard weight or measure, to place the transaction in writing. This law is now being contested in the Supreme Court for the State of Ohio, and should a favorable decision be rendered I would recommend these words be incorporated in our law after the words "special agreement" in both the "Weights and Measures Law" and the general food law.

I would recommend the passage of a Milk Bottle Law, making the manufacturers of milk bottles file a bond with the Secretary of the State guaranteeing the size of their bottles and that each manufacturer be given a serial number to stamp on his make of bottles. Such a law is successfully working in Wisconsin. The present law could be amended by having the word "knowingly" stricken out so that we will not have to prove criminal intent on the part of the person prosecuted for fraud.

We held a very successful convention of the Sealers of Weights and Measures of Michigan in Detroit on June 30, July 1st and 2nd. This was the first convention of the kind held in Michigan and was attended by nearly every Sealer in the state. The interest and earnest intention of the Sealers to make Michigan one of the cleanest states as far as weights and measures was concerned, was so apparent that it was commented on by visitors. We were greatly helped in our convention by F. P. Downing, Chief Inspector of Weights and Measures for the state of Wisconsin; L. S. Holbrook of the Bureau of Standards; John Connors of the W. & L. E. Gurley Company; and F. S. Albrecht of Ohio. The Sealers present formed a permanent organization for the purpose of encouraging the appointment of Sealers where none exist, the making of new laws and amending of the law now existing for the purpose of strengthening it, and to work with the Dairy and Food Department to establish better conditions in weights and measures.

The following are the officers of the organization:

Chairman, Burr B. Lincoln.

Secretary, Fred Barnard, Battle Creek.

Executive Committee, Lieut. George F. Austin, Detroit; George A. Hawkins, Bay City; Ed. Friar, Flint.

The following is a record of weights and measures tested by this Department, aside from those tested while accompanying City and County Sealers, as no record was kept of those:

STATE OF MICHIGAN

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....	1		
Hopper Scales.....	16	5	2
Wagon Scales.....	22	38	
Other Platform Scales.....	50	39	21
Counter Scales.....	34	13	24
Spring Balances.....	2	36	
Beam Scales.....	21	9	13
Computing Scales.....	32	18	17
Slot Personal Scales.....		1	
Cream Scales.....	4	5	
Dry Measures.....	28	34	
Liquid Measures.....	115	40	
Automatic Pumps.....	4	3	1
Yard Sticks.....			1
Counter Measures.....	6	4	1
Weights.....	250	22	57

The following table embraces the report from twelve cities and counties in the state, and represents in some instances but a short period of time in actual work, owing to the fact that in some instances officials had held their appointment and had been engaged in the work but a short time previous to June 30th:

	Scaled.	Condemned.	Adjusted.
Hopper scales.....	130	16	4
Railroad Scales.....	32	7	
Wagon Scales.....	697	210	6
Other Platform Scales.....	2,771	434	54
Suspension Scales.....	13	4	
Counter Scales.....	2,372	224	102
Spring Balance.....	1,361	668	4
Beam Scales.....	373	30	21
Computing Scales.....	3,234	422	112
Dry Measures.....	12,757	954	
Liquid Measures.....	12,627	2,643	
Milk Jars.....	1,467,670	17,896	
Automatic Pumps.....	126	18	5
Baskets, boxes and crates.....	3,459	1,032	
Yard Sticks.....	10	1	1
Counter Measures.....	2,635	2,495	1
Weights.....	6,370	312	576
Slot Personal Scales.....		1	
Cream Scales.....	4	5	

The Department is at present engaged in experimenting with cream test scales, Babcock test bottles, and getting the equipment necessary for the Drug Inspectors to test out the drug scales and graduates. Also this fall there will be a thorough inspection of sugar beet scales and the weighing and taring of same.

All of which is respectfully submitted,

JAMES W. HELME,
Dairy and Food Commissioner,
Ex-Officio Superintendent of Weights & Measures.
BURR B. LINCOLN,
Deputy Commissioner,
In Charge of Weights & Measures.

PROSECUTIONS.

During the year there were in all 253 prosecutions instituted by the various weights and measures officials for infractions of the provisions of laws and ordinances pertaining to weights and measures.

REPORT OF THE SECRETARY OF WEIGHTS AND MEASURES CONVENTION OF MICHIGAN, HELD IN DETROIT, JUNE 30TH, JULY 1ST AND 2ND, 1914.

TUESDAY, JUNE 30th.

Tuesday morning on June 30th at 9 o'clock the convention was called to order by Deputy Commissioner Burr B. Lincoln who introduced Mayor Marx, of Detroit, who gave the address of welcome. Among other things Mayor Marx stated that the City of Detroit was very glad to welcome the weights and measures officials of Michigan, that it was ready to do anything in its power to advance that work and that the City was ready to furnish all the assistance it could while the convention was in session. The Mayor further stated that the city would furnish a number of machines to take the sealers from one factory to another while they were examining the various scales.

Hon. James W. Helme gave the response thanking Mayor Marx for his generous offer stating that he was very glad to hear that the city of Detroit favored the Weights and Measures enforcement and only hoped that other cities would follow in the same course.

The subject of the Weights and Measures Law and its Enforcement was taken up by State Superintendent, Honorable James W. Helme, and the present law was discussed at some length. Mr. Helme stated that the law as it exists at the present time was not, by any means, the proposed law that he had prepared but that he was very thankful that he was able to get through the legislature as good a law as we had at the present time. He hoped that at the coming session of the legislature he would be able to get passed a number of amendments which he deemed very necessary, among the amendments being the elimination of the word "knowingly" which he believes bars a great many convictions under the Weights and Measures Law.

Mr. Helme also stated that the fee system should be done away with as he considered it a serious handicap, that a great many dealers felt that it was more or less of a graft and in that respect it injured the efficiency of the official. He also stated that all sealers should work under the state law as well as their ordinances because in some respects more efficient results could be gained under the statute than under a city ordinance.

Specifications, Testing and sealing of Weights and Measures Appliances. This subject was taken up by the Deputy Superintendent of Weights and Measures, Burr B. Lincoln, he going over in general the specifications adopted by the Ninth Annual Conference of Weights and Measures officials at Washington, D. C., and pointing out particular specifications that should be borne in mind by every sealer. These specifications were discussed at great length by all the sealers who showed a great deal of interest and it was very apparent that they were comprehending the great value of these specifications and tolerances. A copy of the specifications given by Mr. Lincoln can be obtained by writing the Dairy and Food Department.

AFTERNOON SESSION AT 2 O'CLOCK.

The meeting was called to order by Deputy Superintendent, Burr B. Lincoln, and the topic of City Ordinances and the Sealers' Work Under Them, was taken up by the Hon. James W. Helme, State Superintendent of Weights and Measures. Mr. Helme pointed out while discussing this subject, that it was necessary for a sealer to have city ordinances governing his department as well as working under the state statute for the reason that local conditions differ in different localities. Where some particular feature would be important to one city, it would not be of importance in another. Another feature, he declared, was the fact that many times results could be gained much quicker by means of an ordinance, through a Justice Court instead of having to take the matter to the Circuit Court and sometimes being compelled to wait two or three months until the Circuit Court was in session and could reach the matter. The length of time that elapses between the time that the complaint is signed, the warrant issued and the matter finally disposed of in the Circuit Court, results in a lapse of interest inasmuch as the public has had a chance to forget the details and circumstances in the case. The quicker a case can be disposed of after action is commenced, the more efficient becomes the department. Mr. Helme again emphasized during this talk that he would recommend that the fee system be done away with in all ordinances.

During the discussion that followed the remarks of Mr. Helme, a great deal of interest was shown. Mr. George Eldridge, City Sealer of Adrian, Mich., stated some of the good points contained in his ordinance and also Alvin A. Greer, City Sealer of Port Huron, explained some of the special features of his ordinance. The discussion was taken up by practically all of the delegates present, there being much interest shown in this particular subject, many of the delegates explaining some of the features that were lacking in their particular ordinances and asking a great many questions relative to Mr. Helme's idea as to what he thought would be applicable to their respective localities.

WEDNESDAY, JULY 1st, 9 A. M.

The convention was called to order by Deputy Dairy and Food Commissioner Lincoln. The first topic on the program was the subject of Wagon and Platform Scale Inspection. This subject was to be given by Mr. F. C. Albrecht, State Superintendent of Weights and Measures of Ohio. Mr. Albrecht not being present at this time, Lieutenant Geo.

F. Austin, City Sealer of Detroit, was called upon to make some remarks along this line. The Lieutenant not being prepared to give a talk on this subject stated that he had had a wagon scale set up in one of the factories near by and that later in the day he would notify all the sealers to go to this factory where he would demonstrate his method of testing this sort of scale. At this time Lieutenant Austin had a platform scale brought into the room and placed upon the table where all could plainly see and proceeded to demonstrate the proper method of testing this style of scale. Among other things that he pointed out during this demonstration were the results that could be gained by taking out of the scale a perfect pivot and placing in its place a pivot partially worn and showing the defects it caused. During this demonstration a great many changes were made on this scale showing what would happen if these conditions normally existed upon the scale. This demonstration was received with great interest inasmuch as these conditions are being found constantly in every day practice.

The next subject on the program was the proper method of inspecting and testing counter spring balances, beam scales, computing scales and slot machines, given by F. G. Barnard, City Sealer of Battle Creek. A computing scale was placed upon the table and Mr. Barnard proceeded to demonstrate his method of inspecting and testing this scale. After the test was completed a general discussion followed amongst the delegates, each one explaining his particular method of testing these scales. Each type of scale was discussed from all angles and a great deal of interest was taken in this discussion as these are the most commonly used scales and a great many knotty problems that had been hindering the work of the different delegates were brought out and discussed. Lieutenant Austin, who has been City Sealer of Detroit for fifteen years, gave the delegates considerable information and advice regarding these scales which was greatly appreciated by the delegates.

At the conclusion of this discussion a motion was made by Mr. Barnard and supported by Lieutenant Austin of Detroit that the Chairman appoint a Temporary Secretary and appoint a Committee on Permanent Organization, which was carried. Mr. Lincoln appointed F. G. Barnard, Temporary Secretary, and appointed the following Committee on Permanent Organization who were to report at the next day's session: Lieutenant Geo. F. Austin, Detroit; Geo. A. Hawkins, Bay City; Ed. Friar, Flint; F. G. Barnard, Battle Creek.

AFTERNOON SESSION AT 2 O'CLOCK.

The convention was called to order at 2 P. M., by Deputy Commissioner Burr B. Lincoln, the first subject on the program being "How Ohio is Solving the Weights and Measures Problem," by Mr. F. C. Albrecht, State Superintendent of Weights and Measures. Mr. Albrecht not being in attendance, the second subject on the program was taken up, "The National and State Net Container Law," by Hon. James W. Helme, State Dairy and Food Commissioner. Mr. Helme proceeded to explain the National and State Net Container Law bringing out the fact that all original packages must bear on the principal label, the net contents contained therein. He explained that the National Net Container Law simply had jurisdiction over the commodities while in interstate commerce and that the state Net Container Law had jurisdiction

over the commodities shipped within its points. He proceeded to show where in the past many articles sold in original packages contained much less than they were supposed to hold and this was especially true of canned goods and cereals. He urged every sealer to watch these packages carefully and ascertain if they contained the proper net weight and by so doing cooperate with and help the state department to a large extent.

During Mr. Helme's remarks a great deal of interest was taken and during the discussion that followed numerous questions were asked Mr. Helme relative to this law and much time was spent to great advantage.

At the conclusion of this discussion the delegates were taken by automobile to the different scale factories located in Detroit and given an opportunity to see the different scales in the process of manufacture. The factories visited were the Standard Computing Scale Company of Detroit, the Detroit Automatic Scale Company of Detroit and a branch factory of the Toledo Computing Company at Windsor, Canada. The managers of the different scale companies were very courteous and explained step by step the different operations of scale manufacture. The delegates were requested to ask as many questions as they saw fit and they would be glad to demonstrate as far as possible the different features of their particular scale. The different methods of adjustment were explained to the delegates by the various experts and a great deal of information obtained thereby.

At 7:30 in the evening the delegates met at one of the scale repair shops where Lieutenant G. F. Austin City Sealer of Detroit, had caused a wagon scale to be set up. Lieutenant Austin at this time gave a very complete demonstration as to the proper method of testing wagon, hopper, and railroad track scales. This demonstration probably was one of the most important demonstrations of the entire conference inasmuch as the construction of wagon scales is a matter that all sealers should be familiar with. Lieutenant Austin explained step by step the different tests that should be made and how they should be made. Several scale experts were present and assisted the Lieutenant in explaining to the different delegates all questions that they saw fit to ask. Some three hours were spent at this demonstration and the delegates were all well pleased with the results gained.

THURSDAY, JULY 2.

The meeting was called to order at 9 A. M., by Deputy Commissioner of Weights and Measures, Burr B. Lincoln. The Committee on Permanent Organization being ready to report, their report was called for by the Chairman. The following report was submitted and accepted by the Convention:

Your Committee appointed by the Convention yesterday makes the following recommendations:

- 1st. That the Temporary organization be made permanent.
- 2nd. That the name of this organization shall be the Michigan Conference of Weights and Measures.
- 3rd. The purposes of this organization shall be:

(a) To assist the Dairy and Food Department in holding an annual convention of sealers of weights and measures.

(b) To recommend and work for new laws and amendments to laws already existing.

(c) To get additional sealers and assistants appointed in all counties and cities.

(d) To educate the people concerning the duties and the relationship of a sealer to the people.

(e) To do anything in their power to bring about a thorough and uniform inspection of weights and measures and to protect the people of the state from fraud under the weights and measures law.

4th. The committee be empowered to draft a constitution and by-laws.

5th. To make the appointment of the sealers mandatory instead of optional as it is in the present state laws.

6th. The legislation we recommend the sealers to work for:

(a) The making of a Berry Box Law modeled after the Wisconsin Law.

(b) A milk bottle law also modeled after the Wisconsin Law.

(c) To eliminate the word "knowingly" in the weights and measures law so that the sealers will not have to show intent.

(d) To add the words in writing after the words "where otherwise agreed" in the General Food Law, making it read "Where otherwise agreed in writing," and by also adding the words "in writing" after the words "where otherwise agreed," in Act No. 4900, an Act providing for the weights per bushel of commodities, making it read "Where otherwise agreed in writing."

Signed—

BURR B. LINCOLN, Harbor Beach.

F. G. BARNARD, Battle Creek.

LIEUTENANT G. F. AUSTIN, Detroit.

ED. FRIAR, Flint.

GEO. HAWKINS, Bay City.

This committee was made the Executive Committee of the organization.

The first subject on the program for Thursday morning's session was the Inspection and Testing of Drug Scales and Graduates by Mr. Fred P. Downing, Chief Inspector of Weights and Measures of Wisconsin. The remarks of Mr. Downing on this subject were some of the most important of the entire conference and at a later date you will receive a copy of his entire lecture. A discussion followed the lecture led by Mr. A. R. Todd, Drug Chemist, State Dairy and Food Department. Many questions were asked Mr. Downing and a great deal of interest was shown.

The next subject "Work of the County Sealer," was to have been given by Mr. W. W. Dean, County Sealer of Grand Traverse County. This was dispensed with for the reason that Mr. Dean was not present. The time that this subject would have occupied was taken up by a discussion by all the delegates on any particular proposition that might be of interest to them and a great deal of good was gained by this general

discussion as many propositions were brought out and discussed that have been troubling the various sealers for some time back.

AFTERNOON SESSION AT 2 O'CLOCK.

The Inspecting and Testing of Cream Test Scales and Babcock Test Bottles by Mr. Fred P. Downing, Chief Inspector of Weights and Measures of Wisconsin. This subject was also very important and a copy of this lecture will be sent you in the near future. The discussion that followed Mr. Downing's remarks was very interesting, instructive and complete.

The next subject taken up was the National Bureau of Standard's Work and Their Relation to State Laws by Mr. L. S. Holbrook of the National Bureau of Standards, Washington, D. C. In the course of Mr. Holbrook's remarks he gave the history of the Bureau of Standards connection with weights and measures from the time that the Bureau established a Department of Weights and Measures up until the present day and showed step by step the great amount of work that had been accomplished by the Federal Department. Mr. Holbrook stated that the Bureau of Standards had recently equipped a railroad test car for the purpose of testing railroad scales and that this equipment had so far tested quite a large number of railroad track scales with very satisfactory results and were going to continue in this work as fast as possible.

Mr. Holbrook concluded his remarks by explaining to the conference the new Weights and Measures Bill which is before Congress at the present time giving the United States Bureau of Standards authority to determine what weighing apparatus was suitable for commercial purposes and to establish a Serializing Department. The duty of this department will be to examine all weighing apparatus and if they determine that it is suitable for commercial purposes, a serial number will be given each type of apparatus and their use will be allowed for commercial purposes.

Mr. Holbrook urged that this conference take some action relative to this bill and was very much in hopes that the conference would endorse it and would use all possible means to influence the members of congress from Michigan to support the bill when it reaches the floor of Congress.

Mr. J. C. Connors, who is a member of the Specification and Tolerance Committee of the National Weights and Measures Conference, was present and was called upon for some remarks at the conclusion of Mr. Holbrook's paper. Mr. Connors gave a brief history of weights and measures enforcement from the time weights and measures departments were being organized in the East down until the present time and congratulated Michigan on having such a large attendance at her First Annual Weights and Measures Conference. He stated that at the First Annual Conference held in New Jersey there were four delegates present and that at the First Annual Conference held in Massachusetts there was a smaller number and he thought that inasmuch as there was present at the Michigan Conference in the neighborhood of thirty delegates that it was a very good showing. He was particularly pleased with the great interest shown by the delegates and by the vim with which they took up the various discussions. He closed his remarks by concurring in Mr. Holbrook's appeal for the support of this conference for

the Weights and Measures Act before Congress and hoped that the Michigan Conference would endorse this particular bill.

At the conclusion of Mr. Connor's remarks Lieutenant Geo. F. Austin of Detroit, moved that the Secretary be instructed to notify Mr. L. A. Fisher, Secretary of the United States Bureau of Standards that the Michigan Weights and Measures Conference assembled in convention at Detroit Mich., endorsed the Weights and Measures Act now before Congress and that they would collectively and individually do all within their power to influence the passage of this act.

This motion was supported and carried.

After a general discussion upon any subject which happened to be of interest to the various delegates, the convention was adjourned subject to the call of the State Superintendent.

F. G. BARNARD,
Secretary.

Delegates present at the First Annual Weights and Measures Conference held in the City of Detroit, June 30th, July 1st and 2nd, 1914:

Burr B. Lincoln, Harbor Beach, Mich.
 Fred G. Barnard, Battle Creek, Mich.
 F. P. Downing, Madison, Wisconsin.
 Edwin H. Shuler, Lansing, Mich.
 G. F. Austin, Detroit, Mich.
 R. E. Woodruff, Howell, Mich.
 Edward J. Friar, Flint, Mich.
 Geo. A. Hawkins, Bay City, Mich.
 A. R. Todd, Lansing, Mich.
 W. C. Geagley, Lansing, Mich.
 G. H. Eldredge, Adrian, Mich.
 James W. Helme, Adrian, Mich.
 R. G. Elliott, Munising, Mich.
 Edw. Hanavan, Detroit, Mich.
 Chas. Runkle, Detroit, Mich.
 George Marten, Detroit, Mich.
 Jos. Jeup, Detroit, Mich.
 W. H. Cantelon, Windsor, Canada.
 D. C. Palmer, Boston, Mass., representing the Standard Computing Scale Co., Detroit.
 G. W. Flours, representing Detroit Automatic Scale Co.
 Mat Ribble, Standard Scale Co., Detroit.
 L. Jaenichen, Standard Scale Co., Detroit.
 L. S. Holbrook, Bureau of Standards, Washington, D. C.
 Pat Connors, Matchwood, Mich.
 James Gavan, Ludington, Mich.
 M. A. Jones, Ypsilanti, Mich.
 C. A. Bugbee, Kalamazoo, Mich.
 J. A. Owen, Fairbanks Morse Co., Detroit, Mich.
 E. B. Thompson, Toledo Scale Co., Detroit, Mich.
 Geo. F. Huot, Michigan Sugar Co., Bay City, Mich.
 Robt. J. Doherty, Detroit, Mich.

A. H. Raike, Detroit, Mich.
 J. Lighthill, Detroit, Mich.
 C. R. Webb, Chesaning, Mich.
 N. L. Curtis, Battle Creek, Mich. Sanitarium.
 R. J. Sherman, Toledo Scale Co., Toledo, O.
 G. H. Brownell, Editor, Michigan Dairy Farmer, Detroit, Mich.
 F. C. Albrecht, Columbus, Ohio.
 Chas. O'Brien, Alpena, Mich.
 W. J. Bavurs, Detroit Automatic Scale Co., Detroit, Mich.
 D. G. Wells, Detroit Automatic Scale Co., Detroit.
 L. R. Stewart, Cone, Mich.
 Jothan Allen, Alma, Mich.
 H. C. Castle, Mt. Clemens, Mich.
 W. W. Smith, Sebewaing, Mich.
 Thos. Cosgrove, Crosswell, Mich.
 Frank Lent, Saginaw, Mich.
 F. G. Bleas, Mt. Clemens, Mich.

SUMMARY OF TESTS MADE FROM JUNE 30TH, 1913, TO JUNE 30TH, 1914, BY GEORGE F. AUSTIN, CITY SEALER OF DETROIT. APPOINTED NOV. 6, 1901.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....	31	7	
Hopper Scales.....	82		
Wagon Scales.....	262	133	
Other Platform Scales.....	1,133	264	
Suspension Scales.....			
Counter Scales.....	1,171	188	
Spring Balances.....	755	427	
Beam Scales.....			
Computing Scales.....	1,628	179	
Slot Personal Scales.....			
Dry Measures.....	9,044	333	
Liquid Measures.....	8,712	2,025	
Milk Jars.....	1,410,155	11,632	
Automatic Pumps.....			
Baskets, Boxes and Crates.....	3,433	1,082	
Yard Sticks.....			
Counter Measures.....	2,576	2,426	
Tapes.....			
Weights.....	434	307	
Totals.....	1,439,416	18,953	

SUMMARY OF TESTS MADE FROM JUNE 30, 1913, TO JUNE 30, 1914, BY JACOB J. BAKER, CITY SEALER OF MUSKEGON. APPOINTED MARCH 17, 1913.

	Sealed.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....			
Wagon Scales.....	10	1	
Other Platform Scales.....	4		
Suspension Scales.....			
Counter Scales.....	53	8	
Spring Balances.....	47	17	
Beam Scales.....	35	3	
Computing Scales.....	117	21	
Slot Personal Scales.....			
Balance Scales.....	36	6	
Dry Measures.....	222	33	
Liquid Measures.....	252	19	
Milk Jars.....	700		
Automatic Pumps.....	6	4	
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....	4		
Tapes.....			
Weights.....	427	55	
Totals.....	1,913	167	

SUMMARY OF TESTS MADE FROM JUNE 30, 1913, TO JUNE 30, 1914, BY F. G. BARNARD, CITY SEALER OF BATTLE CREEK. APPOINTED FEB. 1, 1913.

	Sealed.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	4		
Wagon Scales.....	54	10	
Other Platform Scales.....	226	60	
Suspension Scales.....			
Counter Scales.....	774	84	
Spring Balances.....	175	47	
Beam Scales.....			
Computing Scales.....			
Slot Personal Scales.....			
Dry Measures.....	212	85	
Liquid Measures.....	76	5	
Milk Jars.....	59,040	29	
Automatic Pumps.....			
Baskets.....	71	16	
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....	744	93	
Totals.....	61,376	429	

STATE OF MICHIGAN

SUMMARY OF TESTS MADE FROM JUNE 30, 1913, TO JUNE 30, 1914, BY JOHN J. BYRNE,
CITY SEALER OF GRAND RAPIDS. APPOINTED AUGUST 1, 1910.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....			
Wagon Scales.....	317	27	
Other Platform Scales.....	431	32	
Suspension Scales.....			
Counter Scales.....	623	16	
Spring Balances.....	277	33	
Beam Scales.....	14	2	
Computing Scales.....	548	71	
Slot Personal Scales.....			
Automatic.....	4		
Counting.....	3		
Dry Measures.....	1,473	47	
Liquid Measures.....	2,630	287	
Milk Jars.....	56,768	6,264	
Automatic Pumps.....	79	4	
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....	3,576	51	
Totals.....	66,743	6,834	

SUMMARY OF TESTS MADE BY HOWARD CLARK, COUNTY SEALER OF WASHTENAW
COUNTY, APPOINTED.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	1		
Wagon Scales.....			
Other Platform Scales.....	9	1	
Suspension Scales.....	5		
Counter Scales.....	99	5	12
Spring Balances.....	1	4	
Beam Scales.....	68	3	4
Computing Scales.....	90	45	5
Slot Personal Scales.....			
Dry Measures.....	31	24	
Liquid Measures.....	204	123	
Milk Jars.....	2		
Automatic Pumps.....	2	3	
Baskets.....			
Boxes.....			
Yard Sticks.....	2		
Counter Measures.....		2	
Tapes.....			
Weights.....	65		153
Totals.....	579	210	174

SUMMARY OF TESTS MADE BY PAT CONNORS, COUNTY SEALER OF ONTONAGON COUNTY. APPOINTED OCTOBER 15, 1913.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....			
Wagon Scales.....			
Other Platform Scales.....	8		
Suspension Scales.....			
Counter Scales.....	39	3	
Spring Balances.....	2	1	
Beam Scales.....	2		
Computing Scales.....	22		1
Slot Personal Scales.....			
Dry Measures.....	17	3	
Liquid Measures.....	106	57	
Milk Jars.....	15		
Automatic Pumps.....			
Baskets.....			
Boxes.....			
Yard Sticks.....	2		
Counter Measures.....	2		
Tapes.....			
Weights.....	166		
Totals.....	381	64	1

SUMMARY OF TESTS MADE BY W. W. DEAN, COUNTY SEALER OF GRAND TRAVERSE COUNTY, APPOINTED OCTOBER, 1913.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	20	10	2
Wagon Scales.....	13	3	
Other Platform Scales.....	58	9	4
Suspension Scales.....	2	2	
Counter Scales.....	23	13	5
Spring Balances.....	3	45	
Beam Scales.....	17	8	
Computing Scales.....	68	11	4
Slot Personal Scales.....			
Post Office Scales.....	4	4	
Automatic.....	1		
Dry Measures.....	84	54	
Liquid Measures.....	168	34	
Milk Jars.....			
Automatic Pumps.....	16	4	
Baskets.....			
Boxes.....			
Yard Sticks.....	8	1	
Counter Measures.....	47	63	
Tapes.....	1	3	
Weights.....	531	183	
Totals.....	1,064	447	15

STATE OF MICHIGAN

SUMMARY OF TESTS MADE BY RANDALL EBERSTEIN, CITY SEALER OF KALAMAZOO. APPOINTED MAY 1, 1914.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....			
Wagon Scales.....	7		
Other Platform Scales.....	153	1	
Suspension Scales.....			
Counter Scales.....	95		
Spring Balances.....	66	3	
Beam Scales.....	2		
Computing Scales.....	172	1	
Slot Personal Scales.....			
Dry Measures.....	31		
Liquid Measures.....	62		
Milk Jars.....			
Automatic Pumps.....	14		
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....	544		
Tapes.....			
Weights.....			
Totals.....	1,146	5	

SUMMARY OF TESTS MADE FROM JUNE 30, 1913, TO JUNE 30, 1914, BY GEORGE H ELDREDGE, CITY SEALER OF ADRIAN. APPOINTED JANUARY 7, 1913.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	4		
Wagon Scales.....	22		
Other Platform Scales.....	188	2	
Suspension Scales.....			
Counter Scales.....			
Spring Scales.....	85	6	
Beam Scales.....	117	2	
Computing Scales.....	180	2	
Slot Personal Scales.....			
Torsion.....	15		
Dry Measures.....	229	3	
Liquid Measures.....	147	2	
Milk Jars.....			
Automatic Pumps.....			
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....			
Totals.....	987	17	

SUMMARY OF TESTS MADE FROM JUNE 30, 1913, TO JUNE 30, 1914, BY A. J. FINN,
CITY SEALER OF CHEBOYGAN. APPOINTED MAY, 1913.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....			
Wagon Scales.....	6	2	
Other Platform Scales.....	62	2	
Suspension Scales.....			
Counter Scales.....	22		
Spring Balances.....	16	2	
Beam Scales.....			
Computing Scales.....	43	2	
Slot Personal Scales.....			
Dry Measures.....		10	
Liquid Measures.....	2	11	
Milk Jars.....	921	85	
Automatic Pumps.....			
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....	50		50
Totals.....	1,122	114	50

SUMMARY OF TESTS MADE FOR THE MONTHS OF MAY AND JUNE, 1914, BY EDW.
J. FRIAR, CITY SEALER OF FLINT. APPOINTED MAY, 1914.

	Scaled.	Condemned.	Adjusted.
Scales.....	45	25	36
Liquid Measures.....	6	3	
Dry Measures.....	19	4	
Oil Pumps.....	7	2	

RECORD OF COAL RE-WEIGHINGS.

Loads of Coal Re-weighed.	Correct.	Condemned.
1	0	1

RECORD OF GROCERY RE-WEIGHINGS.

Packages.	Correct.	Condemned.
35	18	17

STATE OF MICHIGAN

SUMMARY OF TESTS MADE BY THE SEALER OF THE CITY OF LUDINGTON. E. J. GATFIELD, SEALER FROM MAY, 1913, TO MAY, 1914. JAMES GAVAN APPOINTED MAY 6, 1914.

	Sealed.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	5		
Wagon Scales.....	37	1	2
Other Platform Scales.....	126	2	4
Suspension Scales.....			
Counter Scales.....	123		1
Spring Balances.....	20		
Beam Scales.....			
Computing Scales.....	206		4
Slot Personal Scales.....			
Dry Measures.....	74	3	
Liquid Measures.....	74	5	
Milk Jars.....			
Automatic Pumps.....	54		9
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....			
Totals.....	719	11	20

SUMMARY OF TESTS MADE BY ALVIN A. GREER, COUNTY SEALER OF ST. CLAIR COUNTY. APPOINTED MARCH 1, 1914.

	Sealed.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	1		
Wagon Scales.....	20	2	
Other Platform Scales.....	24	3	
Suspension Scales.....			
Counter Scales.....	230		
Spring Balances.....	20	1	
Beam Scales.....	82	2	
Computing Scales.....	128	20	
Slot Personal Scales.....			
Dry Measures.....	50	90	
Liquid Measures.....	30	6	
Milk Jars.....			
Automatic Pumps.....			10
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....	167	14	
Totals.....	752	138	10

SUMMARY OF TESTS MADE BY GEORGE A. HAWKINS, COUNTY SEALER OF BAY COUNTY. APPOINTED NOVEMBER 15, 1913.

	Sealed.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....			
Wagon Scales.....	2	1	
Other Platform Scales.....	49	12	18
Suspension Scales.....	21	29	4
Counter Scales.....		34	
Spring Balances.....	1		
Beam Scales.....			
Computing Scales.....	102	48	46
Slot Personal Scales.....			
Dry Measures.....	327	327	
Liquid Measures.....	224	127	
Milk Jars.....	14	4	
Automatic Pumps.....	5	2	
Baskets.....			
Boxes.....	6	4	
Yard Sticks.....		4	
Counter Measures.....			
Tapes.....			
Graduates.....	9	1	
Weights.....	449	240	
Fruit Jars.....		3	
Totals.....	1,209	836	68

SUMMARY OF TESTS MADE BY CHARLES O'BRIEN, CITY SEALER OF ALPENA, APPOINTED APRIL 6, 1914.

	Sealed.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	1		
Wagon Scales.....	6		2
Other Platform Scales.....	45	2	21
Suspension Scales.....	2		
Counter Scales.....	81	6	45
Spring Balances.....	27	1	4
Beam Scales.....	14		4
Computing Scales.....	100	2	72
Slot Personal Scales.....			
Dry Measures.....	78	4	
Liquid Measures.....	61	6	
Milk Jars.....	30		
Automatic Pumps.....	22		4
Baskets.....			
Boxes.....	26		
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....	418	2	20
Totals.....	911	23	172

SUMMARY OF TESTS MADE BY V. A. RIPLEY, COUNTY SEALER OF CHIPPEWA COUNTY. APPOINTED OCTOBER 23, 1913.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....			
Wagon Scales.....	2	2	
Other Platform Scales.....	16	3	4
Suspension Scales.....			
Counter Scales.....	16		3
Spring Balances.....			
Beam Scales.....	2		
Computing Scales.....	30	17	11
Slot Personal Scales.....			
Dry Measures.....	17	3	
Liquid Measures.....	33	4	
Milk Jars.....			
Automatic Pumps.....			
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....	167	7	7
Totals.....	283	36	25

SUMMARY OF TESTS MADE FROM JUNE 30, 1913, TO JUNE 30, 1914, BY A. P. ROGERS, CITY SEALER OF LANSING. APPOINTED MAY, 1913.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	3		
Wagon Scales.....	20	3	
Other Platform Scales.....	96	8	
Suspension Scales.....	1		
Counter Scales.....	101	4	
Spring Balances.....	142	94	
Beam Scales.....	1	1	
Computing Scales.....	263	28	
Slot Personal Scales.....			
Dry Measures.....	484	224	
Liquid Measures.....	117	19	
Milk Jars.....			
Automatic Pumps.....			
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....			
Totals.....	1,228	381	

SUMMARY OF TESTS MADE BY C. J. WUELLNER, COUNTY SEALER OF MENOMINEE COUNTY. APPOINTED JANUARY 2, 1914.

	Scaled.	Condemned.	Adjusted.
Railroad Track Scales.....			
Hopper Scales.....	2	1	
Wagon Scales.....	3	1	4
Other Platform Scales.....	8		
Suspension Scales.....	3	2	
Counter Scales.....	22	1	3
Spring Balances.....		3	
Beam Scales.....			
Computing Scales.....	28	8	2
Slot Personal Scales.....			
Dry Measures.....	12	2	
Liquid Measures.....	52	21	
Milk Jars.....			
Automatic Pumps.....	1		
Baskets.....			
Boxes.....			
Yard Sticks.....			
Counter Measures.....			
Tapes.....			
Weights.....	169		32
Totals.....	300	39	41

SUMMARY OF TESTS MADE BY J. H. ZEHNDER, CITY SEALER OF SAGINAW, APPOINTED JAN. 15, 1914.

	Scaled.	Condemned.	Tagged for repairs.
Scales.....	706	10	60
Measures.....	988	101	
Total.....	1,694	111	60

SEALERS OF WEIGHTS AND MEASURES IN THE STATE OF MICHIGAN.

Lieutenant Geo. F. Austin City Sealer, Detroit.
 Jacob J. Baker, City Sealer, Muskegon.
 F. G. Barnard, City Sealer, Battle Creek.
 Chas. Burkholder, City Sealer, Greenville.
 John J. Byrne, City Sealer, Grand Rapids.
 Howard Clark, County Sealer, Manchester.
 Pat Connors, County Sealer, Matchwood.
 W. W. Dean, County Sealer, Traverse City.
 Randall Eberstein, City Sealer, Kalamazoo.
 George Eldredge, City Sealer, Adrian.
 R. G. Elliott, County Sealer, Munising.

A. J. Finn, City Sealer, Cheboygan.
Ed. Friar, City Sealer, Flint.
James Gavan, City Sealer, Ludington.
A. A. Greer, County Sealer, Pt. Huron.
G. A. Hawkins, County Sealer, Bay City.
Chas. O'Brien, City Sealer, Alpena.
Volney A. Ripley, County Sealer, Sault Ste. Marie.
A. P. Rogers, City Sealer, Lansing.
Archie Stewart, County Sealer, Alpena.
J. W. Tait, County Sealer, East Tawas.
C. J. Wuellner, County Sealer, Menominee.
J. H. Zehnder, City Sealer, Saginaw.

STATE SPECIFICATIONS OF WEIGHTS AND MEASURES.

INTRODUCTION.

The following pages are for the guidance and instruction of Michigan weights and measures officials and are given in compliance with section 3, Act No. 86, Public Acts of 1913.

The primary purpose of the law was the establishment of uniform standards throughout the state, uniform methods of inspection, testing and sealing, and the protection of the consumers and the business interests. Under this law the offices of County Sealer and City Sealer may be established.

Under the law the weights and measures officer is not simply a sealer in the old, accepted sense but is the officer who is to see that the weights and measures under his jurisdiction are correct and that they are correctly used, and that the laws relating to weights and measures are properly enforced. Aside from protecting the business interests and the general purchasers, the weights and measures officer should be the one who is called upon by the county and city to see that the county and city receives full quantity of the commodities that they purchase.

Under the law the State Superintendent of weights and measures has general supervision of the weights, measures and measuring and weighing devices in use in the state. In the following pages will be found specifications with which weighing and measuring instruments must comply and the weights and measures officers will condemn all apparatus which does not comply with such specifications.

In the annual sworn reports of the officers of weights and measures, which all are required to make to the State Superintendent of weights and measures, they will be required to report whether they have condemned such apparatus which does not comply with such specifications.

The weights and measures official should always bear in mind that the prime object of all weights and measures inspection is to secure full weight and measure and that the purchasing of commodities by weight, measure or numerical count forms an equitable basis of dealing for the producer, the distributor and the consumer. The elimination of false

apparatus and the securing of correct apparatus is only the first step in the work.

The sealer in his tour of inspection should visit the hardware stores or stores that deal in weighing and measuring apparatus of any kind and should see that they handle only apparatus that complies with the specifications, and notify the management thereof as to the requirements of the weights and measures laws of the state and of these regulations.

The office of sealer of weights and measures should be one of the most important in the public service, affording protection alike to the honest dealer and purchasing public.

There are some dealers in every community who oppose most strenuously any inspection of their scales, weights and measures, and especially an investigation of their methods of using the same. The reason for such opposition is generally well founded, for the tests of a conscientious inspection would reveal too much.

The sealer should strictly adhere to the law. He should be tactful, energetic, conscientious.

The sealer in many places must realize that he is doing missionary work, that his work is not yet fully understood consequently that the fact is not appreciated that the lack of supervision of weights and measures and the methods of selling is a serious monetary loss to the community at large.

By strict adherence to his duty and to the law, he will gain the confidence of all honest merchants and will show the buying public that honest quantity is as important as honest quality.

The sealer of weights and measures should have in his possession a copy of the state and local laws referring to weights and measures, and should see that they are complied with.

Copies of these instructions will be furnished when desired.

JAMES W. HELME,

State Supt. of Weights and Measures.

August 15, 1913.

STATE OF MICHIGAN.

DAIRY & FOOD DEPARTMENT.

The following specifications of scales and tolerances and instructions for the City and County Inspectors in the State of Michigan, are hereby issued and promulgated under the provisions of Act No. 86, Section 3, Public Acts of 1913, as the official specifications and tolerances for the State of Michigan until further orders.

JAMES W. HELME,

Dairy & Food Commissioner.

Ex-Officio State Superintendent of Weights and Measures.

EQUIPMENT.

Each district, county or city appointing a sealer of weights and measures must have a set of working standards, namely, the standards with which the commercial apparatus is tested. These standards must be submitted to and verified by the state superintendent of weights and measures before they can be used as standards.

These standards must be re-submitted once in five years for test and verification. It is of the utmost importance that a sealer's standards be certified as agreeing with the state standards in order that they have standing in court.

The local sealer of weights and measures should be provided with steel stamps and the initial of his county or city and the last two figures of the year. He should have one of these with the letters one-eighth of an inch in height, one with the letters one-quarter of an inch in height, also one three-eighths of an inch in height thus:

A 13. A 13 A 13

The sealer should also be provided with a die with the letters "CD" or the word "CONDEMNED."

The sealer should be provided with a stencil and stenciling ink, the stencil cut with the initial or initials of the county or city and the last two figures of the year in letters at least three-quarters of an inch high and wide, to be used in sealing dry capacity measures.

The hand seal press and wired lead seals are used for marking such apparatus as would be permanently injured by stamping them. The green paper seals may be used in most instances, especially on scales, and if there is a greasy surface where the seals should be attached a little soda and water will remove it. The condemning tags should be attached with a wire and the condemning tag should be of the form recommended.

SEALING.

The sealer should have a receipt book of the form recommended and a receipt of inspection and test should be given in each instance where apparatus is tested.

The receipts are made out in duplicate and before taking out the carbon paper the sealer should have the owner of the store or establishment or his duly accredited representative write his name across the receipt.

The law requires that all scales, weights and measures must be tested at least once annually and, if found correct, sealed. *The sealing consists in marking the instrument and giving the receipt therefor.* On all weights and wherever possible on other instruments the marking should be done with a steel die.

When a special plate or plug for sealing is provided on a weighing or measuring instrument it should be marked there; in addition, a green gummed seal should be attached after the sealer has filled in the date and his name. When not possible to use the sealing die and the green seal, use a wired lead seal.

CONDEMNING.

Use the condemning stamp in all cases where it is impossible to have the instrument repaired. Where weights, measures, scales and other apparatus are condemned outright, *the owner should be asked to destroy the instrument or to give it to the sealer.* If he refuses, it should be seized and turned over to the magistrate to whom the person is required to be taken.*

Use the red condemning tag only when it is possible to have the instrument repaired and put in proper condition. If possible, wire the instrument so that it cannot be used.

The condemning tags should be numbered consecutively and the tag should be filled out and the lower part removed by the sealer and retained by him as a check on the removal of the condemning tag from the instrument. Such condemning tag shall be removed from such instrument only by the sealer or by his written permission.

The owner of the instrument should be given reasonable time in which to have such instrument repaired. If after such warning and after such reasonable time has elapsed, the owner refuses or neglects to have the instrument repaired, it should be confiscated and given over to the proper magistrate.

The city inspector should be governed in his method of procedure by the local ordinance.

All devices enumerated in the following pages under the heading of "Faulty, Likely to be Encountered," should be condemned.

Never seal or condemn anything that has not been thoroughly inspected and tested.

Whenever a weight, scale or measure or measuring or weighing instrument is sealed or when it is condemned, it should be done in such a manner that the purchasing public can readily see the seal or condemning tag.

Have the dealers place scales in such a position that the purchaser can see the indications on the scale.

View with suspicion any scale which is so hung that the purchaser cannot see the indications of the weighing, also view with suspicion any scale which has the weights continually kept upon it or where heavy paper is placed upon the scale pan.

If the weights and measures official at any time desires additional information on any specific point or points other than given in this booklet, he is privileged to apply to the state superintendent of weights and measures, Lansing, Mich.

LINEAR MEASURE.

Specifications—Rigid linear measures should not be warped or bent.

Yard sticks when used for the purpose of selling goods shall be made of well seasoned hard wood. The denomination of the measures should be clearly marked thereon.

Main divisions shall be plainly designated and the length of their graduations shall be longer than that of the intermediate sub-divisions. Intermediate sub-divisions shall be varied in length that they may be conveniently read.

All tapes should be made of steel, bronze or wire woven cloth or non-shrinkable material.

Counter linear measures made by driving up-holstery tacks or other nails in the counter will not be allowed unless the tacks are accurately placed and the distance, center to center, is correct and the width of the tack is not greater than $\frac{1}{8}$ of an inch. Counter tacks as linear measures are exceedingly crude and are particularly liable to all forms of error. There is no uniformity in measuring by tacks even in the same locality or in the same store. Measuring inside to inside is one length, outside to outside another.

VARIATION ALLOWABLE.

On all measures of length except tapes the following tolerances shall be allowed:

Length.	Tolerance.
6 inches or less	$\frac{1}{64}$ inch.
1 foot	$\frac{1}{32}$
2 feet	$\frac{1}{16}$
3 feet	$\frac{3}{32}$
4 feet	$\frac{1}{8}$
5 feet	$\frac{5}{32}$
6 feet	$\frac{3}{16}$

Tapes which have errors exceeding those in the following table should not be sealed:

Length.	Allowable error.	Tension.
100 feet.	$\frac{1}{4}$ inch.	10 lbs.
66 feet.	$\frac{1}{4}$ inch.	10 lbs.
50 feet.	$\frac{3}{32}$ inch.	10 lbs.
33 feet.	$\frac{3}{32}$ inch.	10 lbs.
25 feet.	$\frac{1}{16}$ inch.	10 lbs.
10 feet.	$\frac{1}{16}$ inch.	5 lbs.
6 feet.	$\frac{1}{32}$ inch.	5 lbs.
3 feet.	$\frac{1}{32}$ inch.	5 lbs.

Tapes under test are to be supported on a plane surface or the floor for their entire length.

Inspecting.—Note whether the measure complies with the specifications above. Sight down the measuring edge of a rigid measure and see if it is straight. Note whether the denominations are clearly indicated.

Testing.—To test a linear measure (yard stick), lay it on the standard. It should come between the stops indicating one yard. When the measure is fastened to the counter, lay the working standard on it. If the measure is short or long by an error greater than that indicated in the specifications, it should be condemned. If the test is made with a steel tape, lay the tape on the measure and see that the divisions on the measure and the tape agree.

If a tape is to be tested, it should be stretched along the standard

and the individual graduations observed. Particular attention should be given to the intermediate divisions. If the tape is over five yards long, it should be sent to the office of the state superintendent of weights and measures, unless the sealer is equipped to test longer tapes.

Sealing.—Yard measures found satisfactory should be sealed by stamping with the steel stamp, using initial or initials of county or city and last two figures of year. Do not attempt to stamp on the steel tape, stamp the handle. If the tape itself is to be marked it should be done as follows: Spread a little paraffin on the part of the steel tape where the marking is to occur and then with a pointed instrument write on the tape through the paraffin; then place dilute nitric acid over the markings cut through the paraffin and allow it to etch for two or three minutes. Thoroughly wash and dry and remove the paraffin with a little oil.

Chains to be sealed should be stamped upon the handle or upon the metal disk or tab which is attached to the chain nearest the zero end.

Linear measures found faulty and not complying with the specifications or test should be condemned.

Kinds of faulty linear measures likely to be encountered:

1. Yard sticks bent, warped, and worn.
2. Advertising yard sticks that may be long or short by as much as one-half inch.
3. Counter tacks.
4. Cloth tapes, inaccurately divided, some stretched, some shrunken, as a whole or only in part. In spite of the fact that it would be economy for all users of tapes to use steel tapes or wire tapes, they still use cheap cloth tapes, often to their own detriment.

LIQUID CAPACITY MEASURES.

Specifications.—Liquid capacity measures should be made of metal, glass, enamel ware or composition.

Liquid measures must be such that the capacity is determined by a definite edge at the top of the measure, and the graduating rings, except those placed to strengthen the measure, will not be allowed. Those reinforcing rings must be so placed that they cannot be mistaken for graduations.

The above does not apply to liquid measures made of glass. They may be graduated or used to measure less than full capacity.

When a tap is provided, the tap should completely empty the measure without tilting.

When a lip is provided, the capacity should be taken without filling the lip or rim; a spout attached near the bottom is part of the capacity measure.

Liquid measures should be strong enough to hold their shape and not be easily damaged or indented by ordinary use.

The following errors are allowable:

Measure.	Tolerance.	
10 gal.	5. fl. oz.	9. cu. in.
5 gal.	3. fl. oz.	5.4 cu. in.
4 gal.	2. fl. oz.	3.6 cu. in.
3 gal.	2. fl. oz.	3.6 cu. in.
2 gal.	1. fl. oz.	1.8 cu. in.
1 gal.	4. fl. drams	.9 cu. in.
$\frac{1}{2}$ gal.	3. fl. drams	.68 cu. in.
1 quart	2. fl. drams	.45 cu. in.
1 pint	1.5 fl. drams	.34 cu. in.
$\frac{1}{2}$ pint	1.0 fl. drams	.22 cu. in.
1 gill	1.0 fl. drams	.22 cu. in.

Inspecting.—Note whether the measure complies with specifications as to form, material and marking. All measures that are dented or have become filled with foreign matter or have become “caked” with the material which is being measured (for instance, molasses or paint measures when “caked”) should be condemned.

Testing.—To test liquid capacity measures, fill the working standard with water even with the top, which may be determined by using a flat glass plate called a “slicker” plate and fill the measure full, even with this glass plate. Slightly displace the “slicker” plate and pour the water from the working standard into the measure. If the measure is not large enough, namely, if it is short, some water will remain in the standard, and the amount left in the standard can be determined by pouring it into a glass graduate and thus noting the ounces and drams or cubic inches that the measure is short.

If on the other hand the measure under test is too large, it will be necessary to add water in excess of that contained in the working standard. This excess may also be determined by the use of the glass graduate.

Graduated glass graduates and graduated nursing bottles should be tested by pouring water from the standard graduate into the measure under test.

Large measures such as milk cans, oil cans, etc., may be tested by weighing them empty, clean and dry and then filling them with water to the place where they are usually filled and again weighing. The difference of the two weighings is the weight of the water contained. This divided by 8.323 lbs. which is the weight of a gallon of water, gives the number of gallons contained. For example: suppose a five-gallon oil can weighs three pounds and when filled with water to the bottom of the neck weighs $44\frac{3}{4}$ lbs.

Then $44\frac{3}{4} - 3 = 41\frac{3}{4}$; and $41\frac{3}{4} \div 8.323 = 5$.

Sealing.—Measures which have been found to be correct should be sealed.

In marking metal measures they may be stamped with a sealing clamp or a steel stamp making a good impression with the die. They should be stamped on the side of the measure.

Glazed measures may be sealed by tagging with a wired lead seal on the handle.

Glass measures should be marked with etching ink on a rubber stamp, or with a wired lead seal.

Measures which do not conform to the specifications and do not show proper capacity on test should be condemned.

Faulty liquid capacity measures likely to be encountered:

1. Liquid measures bent and dented.
2. Liquid measures with bottom cupped upwards, the curvature of the bottom having been reversed.
3. Liquid measure with a hole in the side or bottom.
4. Liquid measures with false bottoms or sides.
5. Fibre ware or earthenware measures broken at the top or cracked.
6. Liquid measures that have a hole or crack and therefore leak.
7. Measure false by virtue of being made short.
8. False use of liquid measures to measure dry commodities.
9. Nursing bottles and pressed glass graduates falsely graduated.
10. Graduated liquid measures other than glass.

MILK BOTTLES.

Specifications.—A bottle used for the sale of milk and cream should have clearly blown or otherwise permanently marked in the side of the bottle the capacity of the bottle.

Testing.—Test milk bottles in the same manner as liquid capacity measures the bottle being filled up to the bottom of the cap ring or stopple.

Milk bottles are not to be sealed by the inspector.

MEASURING PUMPS.

Specifications.—All stops, where there are such, should be so arranged that they can be sealed, either with a wired lead seal or with a cap and wired lead seal in such a manner that the stops cannot be changed without destroying the seal.

The amount of oil delivered must be such that it does not vary more than the tolerance given for liquid capacity measures.

The amount of oil delivered by an oil pump must be the same irrespective of whether the pump is worked slowly or rapidly, in short—it should be independent of the speed at which it is operated.

The amount of oil delivered should be correct within the tolerance whether the pump has been standing unused for several hours or days.

Inspection.—A measuring pump is simply a liquid measure with some form of elevating or discharging device. All stops, nuts and screws should be securely fastened. No gears or racks should be broken. Stops which do not form an integral part of the frame should be so arranged that they can be sealed individually.

Testing.—Test a liquid gallon, a half gallon and a quart measure in use in the store with the standards, and having found them correct, seal them. Then pump some of the liquid into the sealed measures by turning the handle of the pump to the indicated values. The amount of liquid whether molasses, heavy oil, kerosene or gasoline, should fill the sealed measures even full. Repeat this at least four times with each measure, using various speeds of turning the handle. If the sealed measure overflows, the stops are not set correctly; if it is not filled, the stops are not set correctly or the valves leak.

Sealing.—Measuring pumps, when correct, should be sealed by a

wired lead seal, near the top of the frame work. Also seal all adjustable stops. Measuring pumps that do not comply with the above specifications should be condemned.

Faulty measuring pumps likely to be encountered:

1. Oil pumps are particularly liable to be used improperly as it is not necessary to elevate just the required amount and they are frequently used to fill a bottle or can without regard to measure.
2. The stops are loose or have been improperly set.
3. The valves are leaky.
4. Gasoline pumps particularly when not frequently used give short measure due to dried or worn valves.
5. Pumps for heavy oils are operated too rapidly.
6. Pumps used for a different kind of oil than that for which they were constructed.

DRY CAPACITY MEASURES.

Specifications.—Dry capacity measures should be made of metal, composition, or of well dried wood and should be strong enough to withstand ordinary usage.

The bushel and only its multiples and binary subdivisions will be allowed.

Measures less than $\frac{1}{2}$ bushel should not be made of wicker work.

Dry measures of the capacity of $\frac{1}{2}$ bushel, 1 peck and $\frac{1}{2}$ peck, should be of cylindrical form.

Double ended measures, that is, those with a bottom part of the way up, one side being used for one capacity and the other for another, should not be used.

Dry measures should not be used for measuring more than one denomination of measure.

The denomination of the measures should be marked on the side in letters at least half an inch high and wide.

STRICKEN DRY CAPACITY MEASURES.

	Capacity in cubic inches.	Tolerance in cubic inches.
1 bushel	2,150.42	25 cu. in.
$\frac{1}{2}$ bushel	1,075.21	15 cu. in.
1 peck	537.60	8 cu. in.
$\frac{1}{2}$ peck	268.80	5 cu. in.
2 quarts	134.40	2.5 cu. in.
1 quart	67.2	1.5 cu. in.
1 pint	33.6	1.0 cu. in.

Dry capacity measures used in measuring commodities where heaped measure is required should have minimum diameters as given in table below.

$\frac{1}{2}$ bushel	13 $\frac{3}{4}$ inches
1 peck	10 $\frac{7}{8}$ inches
$\frac{1}{2}$ peck	8 $\frac{1}{2}$ inches
2 quarts	6 $\frac{5}{8}$ inches
1 quart	5 $\frac{3}{8}$ inches
1 pint	4 inches

One bushel baskets or boxes, heaping measure, should contain $1\frac{1}{4}$ bushels, stricken measure.

These boxes are used stricken full to carry the commodity to market. A box 12 by 14 by 16 inches equals 2,688 cubic inches, stricken full will hold a heaping bushel. The error in dimension on one side should not vary over $\frac{1}{8}$ inch.

Measures that do not comply with these specifications should be condemned.

Inspecting.—Note whether the measure complies with the specifications as to form and marking.

Pay particular attention to the appearance of the measure, that is, see whether it has been relapped or a false bottom inserted.

If it is of metal, see that it is not indented, or the bottom bent up.

See that the measure complies with the dimensions given in the above tables.

Bottomless measures should be condemned.

If liquid measures are used for selling dry commodities, they should be condemned.

Testing.—Cylindrical dry measures may be tested by measuring the depth and diameter with a rule or dry measure gauge. Measure the depth and diameter in various places and see that there is no considerable variation in either. If the measure shows the correct capacity, it should be stamped, if not, it should be condemned.

If the measure is short and there is sufficient evidence to prosecute, test such dry measure by comparison with the standard, using grain, before swearing out a warrant.

A bushel crate for apples, pears, plums, peaches, and other fruits not secondarily contained in quart or other boxes within such crate, shall have an interior capacity of one bushel, heaped measure, which is construed to be 40 quarts. The same is applicable to fruits, vegetables, and other dry commodities customarily sold by heaped measure. But in all cases where weight per bushel or fractional part thereof is established by law, the full net weight should be required.

The legal dimensions of the standard barrel of fruit, roots or vegetables is given in Act No. 4906, Section 1, Compiled Laws of 1897. Such barrels are tested by measuring the length of the stave, twenty-seven inches, and the diameter of the head, sixteen and one-half inches.

Sealing.—The measure should be marked in a conspicuous place, namely on the side. If of wood, seal across the lapped part of the measure. Use a stencil plate, and mark the measure with letters at least three-quarters of an inch in height with the initial or initials of the county or city and the last two figures of the year. Metal measures and composition measures should be stamped with either the steel die or the sealing clamp.

FAULTY DRY CAPACITY MEASURES LIKELY TO BE ENCOUNTERED.

1. Bottomless measures.
2. Wooden measures cut down so as to reduce the depth.
3. False bottom, tilting bottom, raised bottom or removable bottom, to decrease the depth.

4. The bottom reduced in diameter and the sides relapped. This can be readily detected by the poor nailing.

5. Measures with double sides and bottoms.

6. Sides broken off.

7. Metal measures bent, broken, or dented.

8. Measures falsely constructed, namely, of wrong capacity.

9. Bushel baskets containing only $\frac{7}{8}$ or $\frac{3}{4}$ bushel when stricken full. These are very common.

10. Bushel crates or boxes containing only 2,150.42 cubic inches when stricken full, to measure by stricken measure commodities usually sold by heaping measure.

11. Graduated dry measures.

12. Six-quart measures. These are used for peck or eight-quart measures.

13. Double-ended measures, that is those with a bottom part of the way up, one side being used for one capacity, the other for another.

14. Measures of improper diameter.

15. Measures not cylindrical, from $\frac{1}{2}$ bushel to pint.

16. Measures of not sufficient diameter.

BERRY BOXES.

Specifications.—Boxes for the sale of small fruit should be not less than a quart, pint or half pint dry measure.

Inspecting.—A berry box should be carefully inspected to see whether the bottom is raised or a false bottom inserted or sides pressed in.

Testing.—A berry box is tested by taking a stricken quart, pint or $\frac{1}{2}$ pint of beans and pouring them into the berry box, which should be then stricken full. Any excess should be poured into a cubic inch graduate and the number of inches noted.

Sealing.—Berry boxes need not be stamped, marked or sealed.

All berry boxes found short of the legal requirements should be seized and turned over to the proper magistrate.

KINDS OF FAULTY BERRY BOXES LIKELY TO BE ENCOUNTERED.

1. Berry boxes made of two over-lapping strips of wood, the inner one being pressed up so as to raise the bottom.

2. Excessively small half pint boxes, some of wood and some of metal.

3. Berry boxes with inserted bottom placed too high.

4. Berry boxes with sides drawn in at the bottom.

5. Berry boxes ordered as "snide," "shallow snide," "short snide" and "North Carolina quarts."

WEIGHTS.

Specifications.—Weights should be made of iron, steel or brass or other metal composition not softer than brass.

Lead or other soft metal weights unless well encased in brass, iron or steel are not allowed.

Weights less than one-half of an ounce should not be made of iron.

Weights should not be made in cup form.

In weights that have been adjusted by means of lead, the lead adjustment should not project beyond the surface of the weight and should be driven in securely.

Weights should not present a porous or pitted surface.

The weights should be clearly marked to show their designation.

The variations for weights that are used on even arm retail commercial scales are as follows:

TOLERANCES FOR COMMERCIAL WEIGHTS.

(Manufacturers' Tolerances or the Tolerances on new weights are one-half of the values listed.)

Weight.	Ordinary weights (ratio 1:1.)	Counter-poise ratio less than 100:1.	Weights for multiplying— Lever scales.	
			Ratio 100:1 and less than 1000:1.	Ratio 1000:1 and over.
50 lb.	100 gr.	60 gr.	40 gr.	20 gr.
25 lb.	60	36	24	12
20 lb.	60	36	24	12
15 lb.	40	24	16	8
10 lb.	40	24	16	8
8 lb.	30	18	12	6
5 lb.	30	18	12	6
4 lb.	20	12	8	4
3 lb.	20	12	8	4
2 lb.	15	9	6	3
1 lb.	10	6	4	2
10 oz.	10	6	4	2
8 oz.	5	3	2	1
5 oz.	5	3	2	1
4 oz.	5	3	2	1
2 oz.	3	1.8	1.2	0.6
1 oz.	2	1.2	.8	.4
1-2	2	1.2	.8	.4
1-4	1	.6	.4	.2
1-8	0.5	.3	.2	.1
1-16 ....	.5	.3	.2	.1
1-32 ....	.5	.3	.2	.1
1-64 ....	.2	.12	.08	.04
Ratio of tolerances.	5-5	3-5	2-5	1-5

Note.—The percentage error necessarily varies for the different weights as it is very much less difficult to adjust a large weight to a certain percentage of accuracy than a small one.

Testing.—Weights of five pounds or less should be tested by comparing them with the working standards on the sealer's portable balance. Larger weights may be tested on a scale or balance that has been found to be correct and sufficiently *sensitive* to clearly indicate the small errors.

Sealing.—Weights which are found to be correct should be stamped on the top of the weight and also on the leaded plug or plugs if there be such. Use either large or small steel die, depending upon the size of the weight. If the weight is incorrect and cannot be adjusted, stamp it with the condemning stamp. It is best to get the owner's permission to take the weight, if the case does not warrant instituting legal proceedings.

Important.—Every weight should be tested. The mere fact that it has some designation marked, stamped, engraved or cast on it is no warrant of its correctness; for example, not every piece of cast iron with "5 lbs." cast in its surface weighs five pounds.

KINDS OF FAULTY WEIGHTS LIKELY TO BE ENCOUNTERED.

The most prevalent forms of incorrect weights are the following:

1. Weights old, rusty or worn.
2. Weights that have been drilled or part sawed or chipped off to decrease their weight:
3. Lead-filled, zinc, or brass cased weights, that have come apart and the bottom or part of the filling lost.
4. Knob weights with the knob broken off or replaced by another.
5. Hollow weights with loose filling, part of the filling having been removed.
6. Weights with lead plugs, the plugs removed or scraped.
7. Cheap cast weights which even when new have never been adjusted.
8. Weights that have been drilled and hole filled with blackened beeswax or other light material.

COUNTER BALANCES AND SCALES.

Specifications:—All counter balances or scales should comply with the following:

The bearings and edges should be hard and firmly attached; cast iron edges cast onto the beam are not allowed.

The edges should be sharp.

The edges should bear upon the whole length of their working parts.

No instrument should have removable parts, the removal of which might effect the accuracy of the instrument unless the parts are such that the instrument cannot be used without them.

If the instrument has interchangeable or reversible parts, the interchange or reversal should not affect the accuracy of the instrument.

All graduations shall consist of sharply defined lines so that the positions of the sliding poises or indicators are clearly readable.

All traveling or sliding poises should be provided with means for adjustment and the adjusting material shall be securely enclosed.

When the bearings are shifted laterally on the knife edges the accuracy of the instrument should not be affected.

When in a scale with the pans above the beam there is an adjustment by means of a balancing box or shot cup, it should be permanently fixed beneath the weight pan and should only be large enough to contain loose material to an amount not exceeding one per cent of the capacity of the instrument.

The instrument should give correct readings, when a test-weight equal to one-half the capacity of the scale is shifted on the pan to positions such that the distance from the center of the test weight to the center of the pan is two-thirds of the distance from the center to the edge of the pan.

"Scoop-Off-Scoop-On" scales or scales where the scoop has to be

counterbalanced by a ring or disc on the other pan or on the poise should not be used.

Attachments for adjusting the balance of the beam scale should be permanently fastened and should be so fixed that they cannot be tampered with readily and the range or adjustment should not be over one per cent of the capacity of the scale.

If the sliding poise is provided with a set screw the same shall be securely riveted so that the same cannot be removed from the poise.

Except on special tests mentioned above the tolerances and sensibility weights must not exceed those given in the tables below:

Capacity. Lbs.	Tolerance. Oz.	Sensibility weight. Oz.
1	1/16	1/8
2	1/16	1/8
4	1/8	1/4
5	1/8	1/4
6	1/8	1/4
8	1/4	1/2
10	1/4	1/2
12	1/4	1/2
15	5/16	3/4
20	5/16	3/4
24	3/8	1
25	3/8	1
30	3/8	1
40	7/16	1 1/4
50	1/2	1 1/2
60	1/2	1 1/2
75	5/8	2
90	7/8	2 1/2
100	1	3

Sensitiveness means that there must be a perceptible or appreciable movement when the above additional weights are placed on the fully loaded pan or scoop.

EQUAL ARM BALANCES.

Inspecting.—See that the above specifications are complied with. See that the balance is free and clear.

Testing.—The beam with no load should be in equilibrium and when displaced should quickly return to the same position of equilibrium.

Place a load on one pan and an equal load on the other, each load being equal to about one-half the capacity of the balance. Then transpose the weights. Equilibrium should exist. It is very important that this test be made as a scale may be in equilibrium or balance perfectly with no load on the pans and yet due to unequal length of arms, or the wrong position of the lower central stud be greatly in error when commodities are weighed thereon. *Shift the load on one pan to different parts of the pan, but not overhanging the edge of the pan. Equilibrium should still be maintained.*

If the balance has a graduated side beam, place weights on the scoop or commodity pan and test if the poise will produce a balance when placed in the indicated position. Thus, when 1 lb. is placed on the scoop there should be a balance with the poise indicating 1 lb. on the side beam.

Test the side beam for at least four values.

If the balance nuts or balls are not securely attached or allow a greater variation than noted in the specifications condemn the instrument.

For sensitiveness and maximum variations, see foregoing table. If the balance does not comply with the prescribed sensitiveness or the error is greater than the maximum allowed, it should be condemned.

Balances with a separate scoop and separate counterweight should be condemned

Four essential tests that have to be made on every even arm scale are these:

1. With no load on either side and the poise at zero the scale should balance.

2. With two equal weights, one on either side, the scale should balance, however the weights are shifted.

3. If a side beam is attached it should give the correct weight when test weights are placed on the commodity side of the scale.

4. With full load the scale should be sufficiently sensitive to clearly and definitely indicate an additional weight equal to the maximum allowable variation.

Sealing.—If the balance is found to fulfill the above specifications, it should be sealed by attaching a gummed label seal in a conspicuous place, on some non-movable part of the balance, or attaching a wired lead seal.

If the makers have provided a plug, tag or shield for sealing, mark the same with the sealing die. Balances found not to comply with the specifications or not coming up to the test should be condemned.

FAULTY EQUAL ARM SCALES OR BALANCES LIKELY TO BE ENCOUNTERED.

(Faults are in addition to those of possible falsity of the weights.)

1. Scale out of balance, heavy on the scoop side the plea being that down weight is given.

2. Scales balance with no load but not when equal weights are placed on both pans.

3. Scale balances when equal weights are placed in center of each pan but not when one of the weights is shifted forward or backward or to the right or left.

4. Scale is insensitive due to worn or broken parts or poor construction.

5. Scale may be placed in an inclined position.

6. An outside obstruction, paper bag, box, etc., may be rubbing against one of the pans.

7. A rubber band may be placed around the beam and base.

8. A small spring or elastic may be placed under one side.

9. Metal articles, such as lead, iron rings, hooks, etc., or potatoes or other articles may be placed under the scoop or on the cross under the scoop.

10. Folded paper bags are put under scoop side or heavy paper in the scoop. This is clearly false.

11. Nested weights may be stacked to give the 8 oz., 4 oz., and 2 oz., giving 14 oz., instead of 16 oz.

12. The poise may be light, thus registering more than is really on the scoop.

13. Equal arm scales with a separate scoop and a loose counter-weight or ring, the omission of which will cause a serious error.

UNEQUAL ARM BALANCES.

This includes single and double beam scales, counter-beam scales.

Inspecting.—Note if specifications are complied with.

If a dividing scale or tongue is used, the graduations should be clearly marked and when notched the notches well cut.

There should be no loose or broken parts.

Testing.—When no load is placed on the pan, scoop or platform, the tongue or pointer should indicate equilibrium.

Place weights on the pan, scoop or platform equal to one-half the capacity of the balance and note if the weight is correctly indicated.

Place on the platform, scoop or pan the minimum weight which the balance is intended to weigh and note whether the weight of such load is properly, clearly and decidedly indicated.

Try the above operations with three intermediate loads up to half the capacity of the scale, shifting to different parts of the platform, scoop or pan. The indications in all cases should be correct.

Test the sensitiveness and error at full load; it should comply with the specifications.

Particular attention should be paid to the adjustment of the counter poise weights, which should be carefully tested (see testing of weights.)

Separate scoops with equivalent poise are not allowed.

Sealing.—If the balance is correct, it should be sealed with a gummed label seal in a conspicuous place and on a non-movable part of the scale.

If not correct according to the above tests and specifications it should be condemned.

FAULTY UNEQUAL ARM COUNTER BALANCES LIKELY TO BE ENCOUNTERED.

1. Scales not in balance when poises are all on zero and pan is empty.

2. Scales which balance without scoop or pan, this being used, however, when commodity is weighed.

3. Elastic bands attached around beam and framework assisting or dampening action of beam itself.

4. Scales having objects (wood, old iron, paper, etc.) attached to beam which are weighed with each parcel of commodity sold.

5. Counterpoise hanger, counterpoise weights, weights or sliding poise lighter or heavier than correct value.
6. Scales having beams graduated irregularly.
7. Scales having poise or beam worn so that when poise is placed back as far as possible it will not be on zero mark of beam.
8. Scales having easily accessible adjusting screws by which balance may be easily and quickly changed.
9. Does not weigh properly on all parts of pan.
10. Has separate scoop and counterweight, the omission of which latter may cause a serious error.
11. Great friction in bearings or movable parts.

PLATFORM SCALES.

Specifications.—The beam of the scale shall be provided with a stop or stops to prevent the sliding poise or poises from traveling beyond the zero mark.

The indications or graduations on the beam should be visible irrespective of what registering or stamping mechanism may be used on the poise.

All loose counterpoises should be identified with the scale by number or other sufficient mark of identification which should be indelible.

The balance ball should have a total range not exceeding one per cent of the capacity of the scale.

The indications on the beam shall be clear cut and where notches are used the notches should be at right angles to the face of the beam.

All bearings and edges should be of hard steel.

Scales with platforms must be so constructed that there is sufficient clearance between the platform and the frame to allow for any expansion due to weather effects. Sufficient clearance must also be provided that the live parts of the scale will not bind or be interfered with by the ordinary accumulation of dirt.

The foundation on dormant scales should be solid and firm.

Wagon scales where the sides or ends of the supporting foundation or frame are left open, allowing the wind to enter under the platform are unfit for use.

The platform and the scale should be so constructed that there is no means for the silt or dirt from the platform to fall upon the bearings.

The weighings made by a scale should be correct, irrespective of where on the platform the weight is placed.

The sensitiveness of the scale should not exceed two of the minimum graduations on the beam.

A dormant platform scale used for the weighing of vehicles should have at least twelve feet on either side of the scale in the same level plane as the scale platform.

The variations allowable are as follows:

Capacity of the scale.	Greatest variation allowed in excess or deficiency when fully loaded.
200 lbs.	3 oz.
300 lbs.	4 oz.
400 lbs.	5 oz.
600 lbs.	7 oz.
800 lbs.	9 oz.
1,000 lbs.	12 oz.
1,200 lbs.	14 oz.
1,500 lbs.	16 oz.
2,000 lbs.	2½ lbs.
2,500 lbs.	3 lbs.
2 tons.	4 lbs.
3 tons.	6 lbs.
4 tons.	6½ lbs.
5 tons.	10 lbs.
6 tons.	11½ lbs.
8 tons.	15 lbs.
10 tons.	18 lbs.
12 tons.	20 lbs.
15 tons.	25 lbs.
20 tons.	33 lbs.

Inspection.—Note condition of platform. It should not touch the frame at any point. There should be no stones, pieces of coal or foreign bodies wedged between the platform and frame. It should move freely. Note if the beam is worn. The balance ball, if there is one, should be in such a position that it can still be moved to one side or the other. Note the condition of the sliding poise and counterpoise weights; they should be in first-class condition. The sliding poise should not be bent or dented, particularly not at the edge to which readings on the beam are taken. Look underneath the scale and see that all the check rods are in place and that they are neither too tight nor too loose. The bearings should not be corroded or rusted, but should be clean and hard.

Particular attention must be given to a wagon scale that is not covered and to one that is in such a position that most of the vehicles passing the place pass over the scale.

Testing.—The following steps should be taken.

1. With platform clear and clean, counterpoise weights removed, and sliding poise at the zero indications on the beam, bring the beam to a balance with the balance ball or lead in the shot cup.

2. Test for sensitiveness and accuracy and for variations on different parts of the platform. (See specifications for tables.)

3. Place a one-pound standard on the counterpoise, or hang a standard one-pound hanger weight in the counterpoise loop, or on the counterpoise, and place weights on the platform until a balance is established. The ratio of one pound to the weight on the platform then gives the multiplying power of the scale.

(This should be indicated on the counterpoise weights.)

4. Having determined the multiplying power, the counterpoise weights can be tested to see if this same ratio is borne out. It is extremely important to test the counterpoise weights as accurately as possible as

any error in them is multiplied many times for a commodity weighed on the platform.

5. Place 50 pounds on the center of the platform and see if when the sliding weight indicates 50 pounds the beam balances; viz., vibrates between the same two positions as with no load (250 pounds and up on larger scales.)

6. Place weights on the platform and test the marked divisions of the beam or beams.

When testing, the beam should not vibrate too slowly, but should vibrate rather rapidly on either side of the point of rest.

7. If the scale is of the capacity of one ton or over, place a ton of weight on the platform and see if the beam and counterpoise give correct results.

8. It is best to test a scale to its full capacity, as various defects, such as faulty foundation, binding of parts, etc., may develop, if the scale is of the capacity of a ton or over. To this end, it is well to place a loaded wagon on the scale, cause a balance of the beam by means of counterpoise and sliding poise, and then add 500 pounds of test weights on the platform and note if the beam indicates this increase correctly. Repeat this with various increasing loads, depending on the capacity of the scale.

9. In drop lever balances or scales, the drop lever should be raised and lowered several times with a heavy load on the platform, scoop or pan and note taken whether the indications are uniform.

10. A scale in adjustment should fulfill all of the above tests.

Note.—The adjustment is here purposely omitted as it is the function of the sealer to test the correctness of the same and not adjust the levers or parts of the scale.

Sealing.—If the scale is correct, seal the counterpoise weights by stamping with steel stamp. In a conspicuous place on a non-movable part of the scale frame affix a gummed seal. If a plug or shield for sealing is provided, stamp it with the sealing die. If the scale is not correct or does not comply with the specifications, condemn it. Tack a card with the sealer's address in the beam box of wagon scales.

KINDS OF FAULTY PLATFORM SCALES LIKELY TO BE ENCOUNTERED.

1. Scale does not balance when platform is empty and poise on zero.
2. Scale weighs incorrectly for weights on platform.
3. Check rods too loose or too tight.
4. Counterpoise weights wrong.
5. Sliding poise wrong due to weight or wearing of the same at index.
6. Platform binds on the frame.
7. Scale does not weigh alike on different parts of the platform.
8. Balance ball will not balance scale when empty.
9. Dirt on scale or in pit; viz., straw, mud, etc., on any of the movable parts of the scale inside or outside.
10. Bearings broken.
11. Scale too sluggish.
12. Bearings dull.

13. Bending of parts of scale or levers; or giving of foundation when full load is placed on platform.
14. Beam worn, or unevenly notched or divided.
15. Scale insufficiently sensitive.
16. Foundation or parts of scale of insufficient strength to support maximum load.

AUTOMATIC MACHINES.

The term "automatic weighing machine" means a machine in which special self-acting machinery is introduced to effect an automatic feed, the rapid weighing of given loads, the registration and summation of loads, and other similar purposes, or some of them.

Inspection.—See that the adjusting mechanism is suitably secured or protected so that it cannot be readily tampered with.

Testing.—The accuracy of the output of the machine should be verified by re-weighing, over another weighing instrument, not less than 20 continuous loads; or, where practicable, the machine may be tested directly by the application of standard weights.

In testing "totalizing" machines, not less than 40 loads should be passed over the machine, i. e., 10 minimum loads, 10 maximum loads, and 20 loads of the mean between the minimum and maximum.

Sealing.—If correct, stamp with the steel die or place gummed seal upon non-movable part of instrument.

The following variations are allowable:

Use.	Capacity.	Error.
Weighing small loads of tea, coffee, etc.....	1 oz. and upwards...	$\frac{1}{2}$ per cent of load, in excess only.
Weighing grain, etc.....	10 lbs. and upwards..	$\frac{1}{2}$ per cent of the load, in excess or deficiency.
Weighing coal, etc.....	100 lbs. and upwards.	$\frac{1}{2}$ per cent of the load in excess or deficiency.
"Totalizing" machines used for weighing coal, etc.....	10 cwt., upwards....	$\frac{1}{2}$ per cent of the total load of 40 weighings, in excess or deficiency.

SPRING BALANCES.

Specifications.—The following apply to all types of spring scales:

The pointer must reach to the graduated divisions.

On all spring balances where there is an adjusting screw, the adjustment shall not be such that it can be made without the aid of an outside mechanical or auxiliary device. An ordinary locknut is of no value. A cap fastened with a screw placed over the adjusting head will answer.

Spring scales provided with an adjustable indicator, the range of adjustment on the indicator should not exceed one per cent of the capacity of the scale.

The divisions of the scale should be approximately equally spaced and should be clear and distinct.

Where there is no load, the indicator should clearly point to zero and there should be no stop which will prevent the point going beyond the zero.

Spring balances with a hanging pan should not be provided with a hook. A spring balance may have a hook or pan, but not both.

In a scale where a platform is provided, the pointer should show the same indication irrespective of where on the pan the weight is placed, the test being made by placing the center of the test weight approximately two-thirds of the distance from the center out to the edge, the test weight being equal to one-half of the capacity of the scales.

Spring scales with removable pan or hanger should have the separate parts provided with some number or letter so that they can be readily identified as being constituent parts of the whole.

When the graduations commence at a fixed load, the position of the indicator where there is no load should be clearly indicated by zero. All spring scales should be so constructed that when the full capacity of the scale is placed upon the scale for a period of twenty-four hours, the instrument is not affected and the pointer should return promptly to zero, upon the removal of the load.

Spring balances should be so constructed that they will give correct results by successively increasing the load throughout the range or successively decreasing it from the maximum load.

The graduated front on all spring scales should be firmly attached.

Scales that are provided with a deep dish or pan should have an opening in the bottom of the pan or dish to allow for draining.

Dial spring scales should in addition comply with the following:

Dial spring balances should have the extremity of the index pointer not over $1/32$ of an inch in width and the distance of the end of the pointer from the scale should nowhere be over $1/8$ of an inch. The pointer shall not rub on the scale.

In dial spring scales, the clear interval between graduations should not be less than $3/64$ of an inch.

Straight front spring scales used for special purposes and for the sale of inexpensive commodities, should in addition to the general specifications comply with the following:

Adjusting screws should not allow a variation of more than one per cent of the capacity of the instrument.

The pointer or index should come to a point to enable the reading to be clearly and distinctly made.

Straight front spring scales used in the sale or barter of rags, etc. (but which should not be used for the sale of groceries, meats and dairy products), in quantities less than 25 pounds should be graduated to half pounds and the half pound should be represented by a distance of not less than $3/64$ of an inch, or one inch, should approximately represent not more than $10\frac{1}{3}$ pounds.

Straight front spring scales used for weighing commodities over 25 pounds and under 100 pounds should be graduated at least to pounds, and one pound must be represented by not less than $1/16$ inch of length or one inch should represent at most 16 pounds.

Spring ice scales should comply with the straight front spring scales, except as to degree of graduation, but care must be taken that there is

not excessive play in the pointer backward and forward and that the graduations are carefully placed.

In spring ice scales, the value of graduation should comply with the following:

Capacity of scale.	Maximum value of interval.	Minimum distance between graduations.
50 lbs.	$\frac{1}{2}$ lb.	$\frac{1}{32}$ inch.
100 lbs.	1 lb.	$\frac{1}{32}$ inch.
200 lbs.	2 lbs.	$\frac{1}{32}$ inch.
300 lbs.	5 lbs.	$\frac{3}{32}$ inch.
400 lbs.	5 lbs.	$\frac{3}{64}$ inch.
500 lbs.	5 lbs.	$\frac{5}{64}$ inch.

The maximum allowable error on spring scales will be the same as those for the corresponding capacity of counter scales and balances.

On dial spring scales, where the total capacity is obtained by more than one revolution of the pointer the graduated dial should be treated as of the capacity indicated on the dial.

Inspecting.—In spring scales, dial or drum type, the pointer should clearly point to zero when there is no load on the instrument. By turning the head to one side or another, note whether the pointer is bent outward or is too far from the graduations so that appreciable parallax results. If there is a considerable variation, condemn the instrument. Also note if the pointer rubs anywhere. Hooks, rings, tags, etc., should not be hung on the hook or fastened under the pan or platform. If the pointer does not reach the base of the graduations, it is unfit for purposes of weighing. The graduations and figures should be clearly and distinctly visible; if they are worn, blurred or erased, the instrument should be condemned.

Note if the specifications are complied with, particularly the specifications relative to adjusting screws.

Testing.—Place weights on the pan or platform or hang them on the hook and note whether the indications are correct. Do this up to the capacity of the scale.

When the load is removed, the pointer should return quickly to zero.

The indications should be noted when the load is carefully applied and also after the spring is quickly shaken up or down. The movable part of the scale attached to the spring to indicate the weighings should be as nearly as possible dead beat, that is, does not vibrate back and forth a long time before coming to rest.

For any particular type of scale, test should be made by placing a load equal to the full capacity of the instrument on the pan and letting it remain there for 24 hours. This should not have affected the scale. If it does, the spring used by the manufacturer of this particular kind of scale is poor and other scales of that type should be tested as to this quality of spring. Scales which will not stand a 24 hour test should be condemned.

Shift the test weight equal to one-half the capacity of the scale to different parts of the platform. No change in the indication should result. (See specifications.)

If the pointer on a spring balance shows constant error it may be correctly set by means of a pointer wrench, generally by removing the

glass front, then loosening the screw in the tail end of the pointer, moving the pointer with the wrench to the proper place and then tightening the screw. Do this only on first inspection.

The maximum allowable variation and sensitiveness are the same as those allowed for counter scales.

Sealing.—Spring balances found to be correct should be sealed as follows:

A dial or counter spring scale should have the gummed seal affixed in a conspicuous place. In addition the sealing die should be used where there is a plug or shield provided for sealing. A hand balance should be sealed with a steel stamp bearing the initial or initials of the city or county and the last two figures of the year.

Spring balances found faulty should be condemned.

FAULTY SPRING SCALES LIKELY TO BE ENCOUNTERED.

1. Scales on which the hand or index marker does not point to zero when hook or pan is empty.

2. Scales of the straight front type on which the graduated face is not riveted to frame and can be raised or lowered while weighing is being done.

3. Scales having elastic bands attached to hook and frame so as to reinforce or retard action of spring itself.

4. Scales in which a stronger spring has been substituted for original spring or vice versa.

5. Scales on which pointer interferes with face which causes pointer to stop before indicating full value or weight.

6. Scales of the straight front type on which top bolt or ring holding spring has been loosened and can be raised or lowered at will of operator.

7. Scales which carry extra hook attached to spring on which objects can be hung such as bills, etc.

8. *Scales having two hooks of different weights which can be attached to spring or scales having two hooks which register different weights on graduated face according as object is placed on one or the other. These are used by many junk dealers. They should invariably be condemned.*

9. Balances having easily accessible adjusting screws by which position of pointer may be quickly and easily changed.

10. Hanging scales on which the bar to which the pan or hook is attached works hard in its slot or catches at certain points.

11. Spring scales with no damping device, oscillating so freely and so long that there is a tendency to read the pointer before it comes to rest.

12. Objects attached to the hook, pan frame, beam or under the beam.

13. Scales with graduations so closely spaced that an accurate reading is impossible.

14. Scales of large capacity and consequently each division representing a considerable weight used to weigh small quantities such as a 100-pound, 50-pound, or 25-pound spring scale used in the scale of commodities when generally not over one to five pounds are weighed in retailing meats, groceries, etc.

15. The spring weakened or drawn up too tight.
16. Straight front springs from which the spring has been removed.
17. Spring scales ostensibly showing weight on the customer's side but not so doing because no index line is provided.
18. Spring scales where the dealer's and customer's sides do not correspond.

COMPUTING SCALES.

Specifications.—Computing scales must be correct in their weight indications and in their money indications.

A computing scale in which there is more than one figure of the same denomination in the same column or row at a given price per pound is not correct.

There should be no readily adjustable parts; all adjustments should be covered, or require an outside or auxiliary mechanical device to operate them. A lock nut is not sufficient; the ordinary additional nut used as a lock nut is of no value.

The indicating or reference mark on the customer's side and on the dealer's side should be present, both should be clear, distinct and indicate correctly.

The distance between the reference mark and the movable chart or the distance between the movable reference mark and chart should not be over $1/32$ of an inch, or such that by shifting the eye to either left or right or up or down no appreciable error will result.

The specifications as to other parts of the instrument will be the same as those of the class to which it belongs.

The maximum value graduation on the chart must not exceed two cents.

Inspecting.—There should be no readily adjustable parts. All indications should be clearly marked. A common fault of many computing scales is that they are set from $1/2$ to 2 ounces fast. They are then wrong and should be condemned. The scale should clearly indicate zero when no load is on the pan. Note if the specifications are complied with, particularly as to the method of graduation and the presence of a clear, distinct indicating or reference mark or pointer. A scale with no reference mark or line, but only an opening, cannot be read and should be condemned.

Testing.—To test the accuracy of the pound and ounce values proceed as follows: Place a one-ounce weight upon the platform or pan and see whether the indications for one ounce are clearly shown on both the front (the dealer's side) and back (the customer's side) of the scale and whether these indications are correct. The index line, pointer, or reference mark must be sufficiently close to the indications that an appreciable error may not be introduced by the observer changing the position of his eye.

Repeat the same operation with an eight-ounce weight, with a one-pound weight, with a five-pound weight and then with the full capacity of the balance, in each case placing the weight not only in the center of the platform or pan but shifting it also to the edges. The indications in all of these cases should be correct.

It is very important to test the computing scales through a complete range of weight indications, as a great many show errors at different

points of the scale and a great many of which may be correct at 0 show a falling off or increase somewhere within the range of the scale.

To test the correctness of the money values proceed as follows: Place a two-ounce weight upon the platform or pan and note the money indications at 4, 8, 10, 20 and 40 cents per pound; the first should show either one-half or no cents, the second should show one cent, the third should show one and one-quarter or approximately one-quarter between one and two cents, the next should show either two and one-half cents or approximately one-half way between two and three cents, and the last should show five cents. Place a one-half pound weight on the balance; the first money indication for the price per pound of the commodity noted above should show two cents, the next four cents, the next should show five cents, the next ten cents, the next twenty cents. Place two and one-half pounds upon the platform or pan; the money indicated for the price per pound of the commodity noted above should indicate in the first case ten cents, the next case twenty cents, the next case twenty-five cents, the next case fifty cents, the next case one dollar.

No column or row indicating money values for a commodity at a certain price per pound should have more than one value in each column or row indicating the money value at the price per pound. For instance a commodity sold at seven cents per pound should nowhere have in that column or row a duplication of values such as two 3's or two 4's. It is clearly impossible for two different weights of a commodity at the same price per pound to have the same value.

The allowable variations and sensitiveness should be the same as prescribed under counter scales.

Sealing.—Sealing is done by stamping with the sealing die on a plate when provided, and also by affixing a gum seal on the front and back of some non-movable part of the scale.

Computing scales which do not comply with the above specifications or which are not correct in both weight indications and money indications should be condemned. A computing scale may be correct in its weight indications and incorrect in its money indications or vice versa. If it is correct in its weight indications but incorrect in its money indications, the sealer, on the first tour of inspection, should condemn the money indications by covering up the opening showing the money indications. If there are objections to this on the part of the dealer, the sealer should condemn the scale as a whole.

KINDS OF FAULTY COMPUTING SCALES LIKELY TO BE ENCOUNTERED.

Computing scales being either of the lever type or the spring type are liable to any of the faults enumerated under those types of scales and in addition:

1. The computing part of the scale, namely the divisions of figures, may be falsely placed so that the correct values may not be indicated when a certain weight is placed on the scales; or inversely, when a certain number of cents worth of a commodity at a certain price per pound is to be weighed, the wrong quantity of the commodity is delivered although the money value indicated may be the required one.

2. Scales on which index mark or pointer is so far removed from the

division or figures, that the reading obtained depends on the position of the observer.

3. Divisions so closely placed that accurate reading is difficult.

4. The ounce and pound values on the customer's side not corresponding with the dealer's side, or the index mark or line omitted from either side.

BRIEF REFERENCE TABLES FOR SEALERS.

United States Linear Measure.

12 inches (in.) = 1 foot (ft.)

3 ft. = 1 yard (yd.) = 36 inches.

$5\frac{1}{2}$ yards = 1 rod (rd.) = $16\frac{1}{2}$ ft.

320 rods = 1 mile (mi.) = 1760 yards = 5280 feet.

Chain Measure.

7.92 inches = 1 link (li.)

100 li. = 1 chain (ch.) = 66 feet.

80 ch. = 1 mile (mi.)

The engineer's chain is 100 feet long and consists of 100 links.

Square Measure.

144 square inches (sq. in.) = 1 square foot (sq. ft.)

9 sq. ft. = 1 square yard (sq. yd.)

$30\frac{1}{4}$ sq. yd. = 1 square rod (sq. rd.)

160 sq. rd. = 1 acre (a.)

Surveyor's Measure.

625 square links (sq. li.) = 1 square rod (sq. rd.)

16 sq. rods = 1 square chain (sq. ch.)

10 sq. ch. = 1 acre (a.)

640 a. = 1 square mile (sq. mi.)

36 sq. mi (6 mi. sq.) = 1 township (tp.) = 23040 a.

Cubic Measure.

1728 cubic inches (cu. in.) = 1 cubic foot (cu. ft.)

27 cu. ft. = yard (cu. yd.)

United States Liquid Measure.

4 gills (gi.) = 1 pint (pt.)

2 pt. = 1 quart (qt.) = 8 gills.

4 qt. = 1 gallon (gal.) 8 pints = 32 gills.

$31\frac{1}{2}$ gal. = 1 barrel (bbl.) = 126 quarts.

2 bbl. = 1 hogshead (hhd.) = 63 gallons = 252 qts.

Apothecaries' Fluid Measure.

60 minims (m.) = 1 fluid dram (fl. dr.)

8 fl. dr. = 1 fluid ounce (fl. oz.) = 480 minims.

16 fl. oz. = 1 pint (O.) = 128 fl. dr. = 7680 m.

8 O. = 1 gallon (cong.) = 128 fl. oz. = 1024 fl. dr.

U. S. Dry Measure.

2 pints (pt.) = 1 quart (qt.)
 8 qt. = 1 peck (pk.) = 16 pints.
 4 pk. = 1 bushel (bu.) = 32 quarts = 64 pints.

Avoirdupois Weight.

27 $11/32$ grains (gr. = 1 dram (dr.)
 16 dr. = 1 ounce (oz.) = $437\frac{1}{2}$ grains.
 16 oz. = 1 pound (lb.) = 156 drams = 7000 grains.
 100 lbs = 1 hundredweight (cwt.) = 1600 ounces.
 20 cwt. = 1 ton (t.) = 2000 pounds.

Troy Weight.

24 grains (gr.) = 1 pennyweight (dwt.)
 20 dwt. = 1 ounce (oz.) = 480 grains.
 12 oz. = 1 pound (lb.) = 240 dwt. = 5760 gr.

Apothecaries' Weight.

20 grains (gr.) = E scruple (℥).
 3 ℥ = 1 dram (℥ = 60 gr.).
 8 ℥ = 1 ounce (℥) = 24 ℥ = 480 gr.
 12 ℥ = 1 pound (lb.) = 96 ℥ = 288 ℥ = 5760 gr.

Number of cubic inches in U.S. Standard capacity measures:

Liquid Measure.

1 gallon contains 231 cu. in.
 $\frac{1}{2}$ gallon contains 115.5 cu. in.
 1 quart contains 57.75 cu. in.
 1 pint contains 28.875 cu. in.
 $\frac{1}{2}$ pint contains 14.437 cu. in.
 1 gill contains 7.218 cu. in.
 1 fluid oz. contains 1.804 cu. in.
 1 dram contains .225 cu. in.

Dry Measure.

1 bushel contains 2150.42 cu. in.
 $\frac{1}{2}$ bushel contains 1075.21 cu. in.
 1 peck contains 537.60 cu. in.
 $\frac{1}{2}$ peck contains 268.80 cu. in.
 $\frac{1}{4}$ peck contains 134.40 cu. in.
 1 quart contains 67.20 cu. in.
 1 pint contains 33.60 cu. in.
 $\frac{1}{2}$ pint contains 16.80 cu. in.

THE METRIC SYSTEM.

The metric system is based on a unit of length (the meter). A cubic box one-tenth of a meter on the side has the unit of capacity, a *liter*,

and the water contained in a liter weighs one kilogram. The unit of weight, the *gram*, in the metric system is the weight of water contained in a cubical box one-hundredth of a meter on a side. (Note: These values are not precisely correct but hold for all but the most refined measurements.)

The entire system is then built up by multiplying or dividing the unit by ten, one hundred and one thousand, using always the same prefix to indicate what the unit is multiplied or divided by, thus:

milli means $1/1000$ or divided by 1000.

centi means $1/100$ or divided by 100.

deci means $1/10$ or divided by 10.

deka means 10 or multiplied by 10.

hecto means 100 or multiplied by 100.

kilo means 1000 or multiplied by 1000.

The tables then become:

Length.

10 milli-meters = 1 centi-meter.

10 centi-meters = 1 deci-meter.

10 deci-meters = 1 meter.

10 meters = 1 deka-meter.

10 deka-meters = hecto-meter.

10 hecto-meters = 1 kilo-meter.

Weight.

10 milli-grams = 1 centi-gram.

10 centi-grams = 1 deci-gram.

10 deci-grams = 1 gram.

10 grams = 1 deka-gram.

10 deka-grams = 1 hecto-gram.

10 hecto-grams = 1 kilo-gram.

Capacity.

10 milli-liters = 1 centi-liter.

10 centi-liters = deci-liter.

10 deci-liter = 1 liter (1 cubic deci-meter.)

10 liters = 1 deka-liter.

10 deka-liters = 1 hecto-liter.

10 hecto-liters = 1 kilo-liter.

In the metric system there is but one standard of weight, one standard of measure for liquids and dry commodities alike, and but one standard of length.

A Few Useful Equivalents.

	Approximate equivalents.
1 centi-meter = .394 inch.	4/10
1 inch = 2.54 centi-meters.	2 1/2
1 yard = .914 meter.	9/10
1 meter = 39.37 inches.	39 1/3
= 1.09 yards.	1 1/10
1 kilo-meter = .621 mile.	5/8
mile = 1.61 kilo-meters.	1 6/10
1 nail = 2 1/4 inches.	
1 palm = 3 inches.	
1 hand = 4 inches.	
1 barley-corn = 1/3 inch.	
1 span = 9 inches.	
1 cubit = 18 inches.	
1 pace = 3 feet.	
1 hairsbreath = 1/48 inch.	
1 dry quart = 1.164 liquid quart (U. S.)	1 1/6
= 67.2 cubic inches.	
1 liquid quart = .859 dry quart (U. S.)	6/7
= 57.75 cubic inches.	
1 liter = 1.056 liquid quarts (U. S.)	1 1/20
= .908 dry quart (U. S.)	9/10
1 cubic inch = 4.43 fl. dr.	4 1/2
1 cubic meter = 1.308 cubic yards.	1 1/3
1 cubic yard = 21.696 bushels (U. S.)	21 2/3
= .765 cubic meter.	3/4
1 fluid dram = .226 cu. in.	1/4
1 hecto-liter = 26.42 gallons (U. S.)	26 1/2
= 2.84 bushels (U. S.)	2 6/7
1 cord (firewood) = 4 x 4 x 8 ft.	
1 barrel refined oil = 42 gallons.	
1 heaped bushel = 1 1/4 struck bushel or ordinary bushel.	
1 firkin butter = 56 pounds.	
1 gallon of water weighs 8.323 pounds.	
1 gram = 15.43 grains.	15 1/2
1 mili-gram = .0154 grains.	2/130
1 grain = 64.8 mili-grams.	65
1 ounce (Av.) = 28.35 grams.	28 1/3
1 kilo-gram = 2.205 pounds (Av.)	2 1/5
1 pound (Av.) = .454 kilo-gram.	9/20
1 ton = 907.185 kilo-grams.	900
1 metric ton = 2204.62 pounds (Av.)	2200
1 long ton = 2240 pounds.	
1 caret = 3.171 grains (varies considerably.)	

To find the diameter of a circle from the circumference divide the circumference by 3.1416.

To find the *capacity of a rectangular box or bin*: Multiply the length by the breadth by the depth or height. The three dimensions must be in the same units.

Example: A bin is 6 ft. wide, 5 ft. 6 in. deep and 8 ft. 3 in. long. Its capacity is $6 \times 5\frac{1}{2} \times 8\frac{1}{4} = 272\frac{1}{4}$ cubic feet.

To find the *capacity of a cylindrical measure or box or bin*: Multiply the diameter by the diameter by 3.1416 by the height and divide by 4.

Example: If a cylindrical measure is 13 in. in diameter and 6 inches in depth, its capacity is $(13 \times 13 \times 3.1416 \times 6) \div 4 = 796.39$ cubic inches.

Find the approximate capacity of a barrel of dimensions different from those given in the statutes by measuring the mean diameter and depth.

Example: A barrel is 25 inches between the heads inside. The inside diameter of the top and bottom is 18 inches and the inside diameter at the center is 20 inches. Find the capacity. The average diameter is approximately $\frac{1}{2}$ of the diameter of the ends and of the center, or $(18'' + 20'') \div 2 = 19$ inches. Then proceed as in the case of a cylinder.

$$(19 \times 19 \times 3.1416 \times 25) \div 4 = 7088.2 \text{ cu. in.}$$

To find the *capacity of a berry box* which has sloping sides, the approximate capacity can be found by adding the area of the top and the area of the bottom and dividing by 2 and then multiplying by the depth.

Example: A berry box is 5.1×5.1 inches on top; 4.37×4.37 inches at the bottom, and 2.93 in depth, the content is $[(4.37 \times 4.37) + (5.1 \times 5.1)] \times 2.93 \div 2 = 66.1$ cubic inches.

To find the *capacity of a berry box* more exactly, find the area of the top and the area of the bottom, and the perpendicular depth. Then multiply one-third of the height by the sum of the top area plus the bottom area plus the square root of the product of the two areas.

Example: A berry box is 5.1 inches on the side at the top and 4.37 inches on the side at the bottom. The depth is 2.93 inches then $\frac{1}{3} \times 2.93 \{ [(4.37 \times 4.37) + (5.1 \times 5.1)] + \sqrt{(4.37 \times 4.37) \times (5.1 \times 5.1)} \} = 65.8$ cubic inches.

To find the *number of tons of coal in a bin*, find the number of cubic feet it occupies and multiply by the weight of a cubic foot of coal and divide by 2,000.

Example: Average nut coal weighs about 52 pounds to the cubic foot of coal. If a rectangular bin is 5 feet wide and 8 feet 6 inches long and filled evenly to a depth of 4 feet, there will be: $5 \times 8\frac{1}{2} \times 4 = 170$ cubic feet of coal, or $(170 \times 52) \div 2000 = 4.42$ tons of coal.

COMMISSION MERCHANTS.

COMMISSION MERCHANTS.

Under an Act passed by the Legislature of 1913 all commission merchants in the State must obtain a license from this Department on the tenth day of October in each year. The law provides that any shipper who feels aggrieved over a transaction with any licensed commission man in the State, may make complaint of his grievance to this Department and it therefore becomes the duty of the Department to investigate the grievance and if possible to obtain a satisfactory settlement between the parties.

The law further provides that if the commission merchant has been a party of any wrong doing toward any of his customers, the Dairy and Food Commissioner may revoke his license.

The following are the names and addresses of commission merchants licensed under this Act since October last:

H. A. Edgar, 208 Third street, Bay City.
Andrew B. Perkins & Co., 109-111 Third street, Bay City.
Powers & Kessler, 115 Third street, Bay City.
John Carroll, 113 Third street, Bay City.
Ellsworth & Son, 217 Third street, Bay City.
Herman H. Mittenthal, 163 West Main street, Battle Creek.
S. A. Gain, 328 Benton street, Cheboygan.
E. R. Godfrey & Sons Co., Calumet.
D. O. Wiley & Co., 20 West Woodbridge St., Detroit.
Newhall & Co., 22 West Woodbridge street, Detroit.
Gleaner Clearing House Association, 95 Fort street, west, Detroit.
Geo. L. Collins & Co., 29 Woodbridge street, west, Detroit.
Frank Wise, 374 High street, east, Detroit.
Chas. W. Rudd & Son, 31 Woodbridge street, west, Detroit.
A. J. Bloomgarden, 33 Woodbridge street, west, Detroit.
Edward Read & Son, 26 Woodbridge street, west, Detroit.
Alfred Rush & Sons, 45 Woodward avenue, Detroit.
F. P. Reynolds & Co., 40 Griswold street, Detroit.
Willard I. Smith & Son, 26-28 Western Market, Detroit.
Theodore P. Ladue & Co., 41 Woodbridge street, west, Detroit.
J. M. Smith, 41 Woodbridge street, west, Detroit.
Weil, Turnbull & Co., 19 Woodbridge street west, Detroit.
The McDonnell Bros. Co., 35 Woodbridge street, west, Detroit.
R. Hirt, Jr., 34-36 Market street, Detroit.
Rose & Brethen, 496 Eighteenth street, Detroit.
J. H. Richard Co., 27 Woodbridge street, west, Detroit.
Griggs, Fuller & Co., 30 Woodbridge street, west, Detroit.
Fred C. Kohs, 484 Eighteenth street, Detroit.
A. Jacob & Co., 24 West Woodbridge, Detroit.
F. J. Schaffer & Co., 396-398 High street, Detroit.
Lane & Schultz, 12 Market street, Detroit.
Chas. Brown & Co., 14-16 Market street, Detroit.
Wm. L. Benjamin, 411 High street, east, Detroit.

Smith & Keys, 60 Market street, east, Detroit.
A. W. Langridge & Co., 370 High street, east, Detroit.
L. R. Jones Co., 459-461 Riopelle street, Detroit.
J. H. Geymann & Bros., 388 High street, east, Detroit.
Fieldman & Kniffen, 433 Winder street, Detroit.
Uller & Powers, 415 Russell street, Detroit.
Purse Bros., 32. Market street, east, Detroit.
Gessner Produce Co., 377 Russell street, Detroit.
Brown Produce Co., 372 High street, east, Detroit.
E. M. Cole & Bros., 413 Russell street, Detroit.
Louis Weil & Co., 407 Russell street, Detroit.
Riopelle Market Co., 436-450 Riopelle street, Detroit.
Detroit Beef Co., 523 Adelaide street, Detroit.
Robert Hayes & Son, 454 Riopelle street, Detroit.
Harry J. Purse, 88 Griswold street, Detroit.
Wiersum & Koning, 49 Market avenue, S. W., Grand Rapids.
Reed & Cheney Co., 22-24 Ottawa N. W., Grand Rapids.
Fisher & Levi, 105 Campau avenue, Grand Rapids.
The Vinkemulder Co., 46-50 Campau avenue, Grand Rapids.
F. E. Leighton, 120 West Trail street, Jackson.
A. W. Walsh, 147-149 East Water street, Kalamazoo.
Kalamazoo Cold Storage Co., Kalamazoo.
Richard Early & Sons, 1011 North West street, Kalamazoo.
Swindell-Taylor Co., 425-429 North Church street, Kalamazoo.
J. H. Rose Co., 209 North Cedar street, Lansing.
J. Seng Co., 18 Clay avenue, Muskegon.
Spangler Davis & Co., 101 North Water street, Saginaw.
Chas. A. Schwartz, 108-110 North Water street, Saginaw.
H. B. Burdick Seed House, 101 Genesee avenue, Saginaw.

PROSECUTIONS.

STATEMENT OF PROSECUTIONS.

FISCAL YEAR ENDING JUNE 30, 1914.

Cases pending July 1, 1913	17
Cases commenced during fiscal year	276

CASES DISPOSED OF.

Before examining magistrates:	
Defendants bound over	114
Defendants discharged	27
In trial courts:	
Defendants convicted	222
Defendants acquitted	12
Cases pending	34
Cases pending on appeal	2

COURT PROCEEDINGS.

FISCAL YEAR ENDING JUNE 30, 1914.

CASE NO. 744.

PEOPLE VS. ELMER E. BOUSE.

Charge: Selling ice cream below the legal standard.
 In justice court, city of Benton Harbor. August 29, 1911: Complaint made.
 September 14, 1911: Defendant convicted. Fined \$100 and costs. Case appealed
 and finally dismissed when standard for ice cream was lowered to 10%.

CASE NO. 846.

PEOPLE VS. JOHN NOLLER.

Charge: Selling adulterated milk.
 In justice court, city of Detroit. March 31, 1913: Complaint made. April
 30, 1913: Defendant convicted. Fined \$100. Case appealed. October 9, 1913:
 Defendant acquitted.

CASE NO. 860.

PEOPLE VS. ARTHUR L. CHILSON.

Charge: Using sulphites in the manufacture of Hamburg Steak.
 In justice court, city of Battle Creek, May 3, 1913: Complaint made. De-
 fendant bound over to circuit court for trial. Defendant entered a plea of guilty.
 Fined \$25 and costs.

CASE NO. 861.

PEOPLE VS. ISAAC VAN WESTENBRUGGE.

Charge: Selling adulterated lard.
 In police court, city of Grand Rapids, May 5, 1913: Complaint made. May

STATE OF MICHIGAN

6, 1913: Examination held. Bound over to superior court for trial. June 26, 1913: Defendant convicted. Case appealed and pending.

CASE NO. 862.

PEOPLE VS. IRA TEETERS.

Charge: Violation of oleomargarine law.

In justice court, city of St. Joseph. May 15, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. September 29, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 865.

PEOPLE VS. HENRY O. MAENTZ.

Charge: Selling adulterated butter.

In justice court, city of Allegan. May 22, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. October 6, 1913: Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 866.

PEOPLE VS. BESSIE FITZSIMMONS.

Charge: Selling colored oleomargarine.

In justice court, city of Detroit. May 22, 1913: Complaint made. June 10, 1913: Examination held. Bound over to recorder's court for trial. July 10, 1913: Defendant entered a plea of guilty. Fined \$50.

CASE NO. 867.

PEOPLE VS. WM. K. PICKARD.

Charge: Selling adulterated maple sugar.

In justice court, city of Kalamazoo. May 29, 1913: Complaint made. June 10, 1913: Examination held. Bound over to circuit court for trial. February 16, 1914: Defendant entered a plea of guilty. Sentence suspended.

CASE NO. 868.

PEOPLE VS. O. M. FALARSKY.

Charge: Using sulphites in meat products.

In police court, city of Grand Rapids. May 28, 1913: Complaint made. Bound over to superior court for trial. September 6, 1913: Defendant convicted. Fined \$50.

CASE NO. 872.

PEOPLE VS. THOS. M. FAUST.

Charge: Selling oleomargarine with sign not in conspicuous place.

In police court, city of Detroit. June 4, 1913: Complaint made. June 12, 1913: Examination held. Bound over to recorder's court for trial. July 9, 1913: Defendant acquitted.

CASE NO. 873.

PEOPLE VS. ISAAC VAN WESTENBRUGGE.

Charge: Selling adulterated lard.

In police court, city of Grand Rapids. June 9, 1913: Complaint made. June 18, 1913: Examination held. Bound over to superior court for trial. Case pending.

CASE NO. 879.

PEOPLE VS. LEROY STEVENSON.

Charge: Sale of diseased hogs.

In police court, city of Jackson. June 21, 1913: Complaint made. August 6, 1913: Defendant bound over to circuit court for trial. September 30, 1913: Defendant acquitted.

CASE NO. 881.

PEOPLE VS. JULIUS W. GOLDMAN.

Charge: Selling oleomargarine without displaying sign.

In police court, city of Detroit. June 23, 1913: Complaint made. Defendant bound over to recorder's court for trial. July 8, 1913: Defendant entered a plea of guilty. Fined \$50.

CASE NO. 882.

PEOPLE VS. SEIGLE GUNN.

Charge: Selling colored oleomargarine.

In justice court, city of Holland. June 23, 1913: Complaint made. July 15, 1913: Defendant bound over to circuit court for trial. A plea of guilty was entered. Defendant fined \$50 and costs.

CASE NO. 883.

PEOPLE VS. SEIGLE GUNN.

Charge: Selling oleomargarine without displaying sign.

In justice court, city of Holland. June 25, 1913: Complaint made. July 15, 1913: Defendant bound over to circuit court for trial. August 27, 1913: Defendant entered a plea of guilty. Sentence deferred.

CASE NO. 884.

PEOPLE VS. JACKSON CAFE.

Charge: Conducting an insanitary restaurant.

In police court, city of Jackson. June 23, 1913: Complaint made. July 26, 1913: Defendant bound over to circuit court for trial. September 30, 1913: Defendant convicted. Fined \$30.

CASE NO. 885.

PEOPLE VS. ARTHUR L. CHILSON.

Charge: Selling adulterated lard.

In justice court, city of Battle Creek. June 30, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 888.

PEOPLE VS. BAILEY & BOTTOMLEY.

Charge: Selling camphorated oil not in conformity with U. S. P. requirements.

In police court, city of Detroit. July 1, 1913: Complaint made. July 18, 1913: Defendant bound over to recorder's court for trial. October 18, 1913: Defendant acquitted.

CASE NO. 889.

PEOPLE VS. F. P. TOAL.

Charge: Selling camphorated oil not in conformity with U. S. P. requirements.

In police court, city of Detroit. July 1, 1913: Complaint made. July 18,

1913: Defendant bound over to recorder's court for trial. October 1, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 890.

PEOPLE VS. W. C. MARX.

Charge: Selling camphorated oil not in conformity with U. S. P. requirements. In police court, city of Detroit. July 1, 1913: Complaint made. July 18, 1913: Defendant bound over to recorder's court for trial. September 3, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 891.

PEOPLE VS. F. E. RUSSELL.

Charge: Selling oleomargarine without displaying sign. In police court, city of Jackson. July 3, 1913: Complaint made. Case dismissed.

CASE NO. 892.

PEOPLE VS. L. F. CHUBB.

Charge: Selling oleomargarine without displaying sign. In justice court, village of Lowell, July 7, 1913: Complaint made. September 7, 1913: Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 893.

PEOPLE VS. J. E. JOHNS.

Charge: Selling adulterated milk. In justice court, city of Hillsdale. July 7, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 894.

PEOPLE VS. W. H. STALLHOOD.

Charge: Selling adulterated milk. In justice court, city of Hillsdale. July 7, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 895.

PEOPLE VS. OLSON & ANDERSON.

Charge: Using sulphites in the manufacture of Hamburg Steak. In justice court, city of Escanaba. July 8, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 896.

PEOPLE VS. MAYNARD J. TEED.

Charge: Using sulphites in the manufacture of Hamburg Steak. In justice court, city of St. Joseph. July 9, 1913: Complaint made. Defendant waived examination and was bound over to the circuit court for trial. September 15, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 897.

PEOPLE VS. PETER H. HIRSCH.

Charge: Using sulphites in the manufacture of Hamburg Steak. In justice court, city of St. Joseph. July 9, 1913: Complaint made. Defendant

waived examination and was bound over to circuit court for trial. September 15, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 898.

PEOPLE VS. CHARLES CHERRY.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In justice court, city of St. Joseph. July 9, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial and later entered a plea of guilty. Fined \$25 and costs.

CASE NO. 899.

PEOPLE VS. FRED WOHLFIEL.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In justice court, city of Three Rivers. July 11, 1913: Complaint made. November 6, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 900.

PEOPLE VS. GEIGER & BURNS.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In justice court, city of Three Rivers. July 11, 1913: Complaint made. October 6, 1913: Defendant entered a plea of guilty and was fined \$25 and costs.

CASE NO. 901.

PEOPLE VS. P. R. BOWEN.

Charge: Selling adulterated milk.
In justice court, village of Tecumseh. July 12, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 902.

PEOPLE VS. DANIEL RAU.

Charge: Selling adulterated milk.
In justice court, village of Palmyra. July 12, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 903.

PEOPLE VS. E. J. BLAKSLEY.

Charge: Selling adulterated milk.
In justice court, city of Pontiac. July 14, 1913: Complaint made. August 16, 1913: Defendant convicted. Fined \$25 and costs.

CASE NO. 904.

PEOPLE VS. L. AMBS.

Charge: Selling lard compound without stamping.
In police court, city of Jackson. July 15, 1913: Complaint made. July 16, 1913: Defendant bound over to circuit court for trial. September 6, 1913: Defendant entered a plea of guilty. Sentence suspended.

CASE NO. 905.

PEOPLE VS. C. R. LONGSTREET.

Charge: Selling lard compound without stamping.
In police court, city of Jackson. July 15, 1913: Complaint made. July 16,

STATE OF MICHIGAN

1913: Defendant bound over to circuit court for trial. Defendant entered a plea of guilty. Sentence suspended.

CASE NO. 906.

PEOPLE VS. WM. DITTMAR.

Charge: Selling adulterated milk.

In justice court, city of Detroit. July 16, 1913: Complaint made. Case dismissed. Will issue new complaint.

CASE NO. 907.

PEOPLE VS. ADOLPH MOERS.

Charge Selling adulterated milk.

In justice court, city of Detroit. July 16, 1913: Complaint made. Case dismissed. Will issue new complaint.

CASE NO. 908.

PEOPLE VS. FRANK TEMPEL.

Charge: Selling adulterated milk.

In justice court, city of Detroit. July 16, 1913: Complaint made. Case dismissed. Will issue new complaint.

CASE NO. 909.

PEOPLE VS. JOHN KING.

Charge: Selling adulterated milk.

In municipal court, city of Battle Creek. July 19, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 910.

PEOPLE VS. BERT PORTER.

Charge: Sale of adulterated lard.

In justice court, city of Charlotte. July 21, 1913: Complaint made. July 22, 1913: Defendant waived examination and was bound over to circuit court for trial. October 13, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 911.

PEOPLE VS. F. H. SCHUMACHER.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, city of Calumet. July 21, 1913: Complaint made. August 25, 1913: Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 912.

PEOPLE VS. MIKE QUELLO.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, city of Calumet. July 21, 1913: Complaint made. August 25, 1913: Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 913.

PEOPLE VS. GOURD BROS.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, village of Laurium. July 21, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 914.

PEOPLE VS. MICHAEL WEISE.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In police court, city of Detroit. July 24, 1913: Complaint made. Defendant bound over to recorder's court for trial. September 9, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 915.

PEOPLE VS. LOUIS HILGAET.

Charge: Sell adulterated milk.
In justice court, city of Stephenson. July 26, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 916.

PEOPLE VS. FRANK C. BERG.

Charge: Sellings adulterated milk.
In justice court, city of Mt. Pleasant. July 29, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$50.

CASE NO. 917.

PEOPLE VS. ROBERT QUACKENBUSH.

Charge: Selling adulterated milk.
In justice court, city of Mt. Pleasant. July 29, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$50.

CASE NO. 918.

PEOPLE VS. ART. WARNER.

Charge: Selling adulterated milk.
In justice court city of Mt. Pleasant. July 29, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$25.

CASE NO. 919.

PEOPLE VS. MAT WOLSCHID.

Charge. Selling adulterated milk.
In justice court, city of Mt. Pleasant. July 29, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$50.

CASE NO. 920.

PEOPLE VS. TOM GALLAGHER.

Charge: Selling adulterated milk.
In justice court, city of Mt. Pleasant. July 29, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$50.

CASE NO. 921.

PEOPLE VS. RUEHLER BEOS.

Charge: Selling lard compound not stamped.
In police court, city of Jackson. July 31, 1913: Complaint made. Defendant bound over to circuit court for trial. September 6, 1913: Defendant entered a plea of guilty. Sentence suspended.

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CASE NO. 922.

PEOPLE VS. G. B. DUNLAP.

Charge: Selling lard compound not stamped.

In police court, city of Ypsilanti. August 1, 1913: Complaint made. August 8, 1913: Defendant bound over to circuit court for trial. September 22, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 923.

PEOPLE VS. ALBERT & IDA RUSSELL.

Charge: Selling milk from diseased cows.

In municipal court, city of Battle Creek. August 4, 1913: Complaint made. August 29, 1913: Defendant convicted. Fined \$10 and costs. Case appealed to circuit court. November 21, 1913: Defendant entered a plea of guilty. Sentence of lower court affirmed.

CASE NO. 924.

PEOPLE VS. LEO H. REISCHKE.

Charge: Selling Hamburg Steak containing sulphites.

In justice court, city of St. Joseph. August 6, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. September 15, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 925.

PEOPLE VS. HALL & KENNEDY.

Charge: Selling oleomargarine with no sign displayed.

In justice court, city of Coldwater. August 8, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. October 13, 1913: Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 926.

PEOPLE VS. STANLEY BIERNOSICWICZ.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Detroit. August 8, 1913: Complaint made. Defendant bound over to recorder's court for trial. Entered a plea of guilty and was fined \$25.

CASE NO. 927.

PEOPLE VS. BEN MARK.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Detroit. August 8, 1913: Complaint made. August 21, 1913: Defendant bound over to recorder's court for trial. October 16, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 928.

PEOPLE VS. F. X. SARBINOWSKI.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Detroit. August 8, 1913: Complaint made. Bound over to recorder's court for trial. October 18, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 929.

PEOPLE VS. SAMUEL RATNER.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Detroit. August 8, 1913: Complaint made. August

21, 1913: Defendant bound over to recorder's court for trial. September 3, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 930.

PEOPLE VS. W. S. KREGER.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In police court, city of Detroit. August 8, 1913: Complaint made. August 21, 1913: Defendant bound over to circuit court for trial. Entered a plea of guilty and was fined \$25.

CASE NO. 931.

PEOPLE VS. BERT HUNT.

Charge: Selling lard compound without stamping.
In police court, city of Detroit. August 12, 1913: Complaint made. August 19, 1913: Defendant bound over to recorder's court for trial. Case nolle prossed.

CASE NO. 932.

PEOPLE VS. ADOLPH BENNETT.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In police court, city of Detroit. August 12, 1913: Complaint made. September 16, 1913: Defendant bound over to circuit court for trial. October 17, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 933.

PEOPLE VS. VINCENT POLMERS.

Charge: Conducting an insanitary bakery.
In police court, city of Detroit. August 12, 1913: Complaint made. September 10, 1913: Defendant bound over to recorder's court for trial. October 16, 1913: Case nolle prossed.

CASE NO. 934.

PEOPLE VS. D. F. CHRISTY.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In police court, city of Detroit. August 12, 1913: Complaint made. September 14, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 935.

PEOPLE VS. JOHN COATES.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In police court, city of Detroit. August 12, 1913: Complaint made. August 21, 1913: Defendant bound over to recorder's court for trial. September 9, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 936.

PEOPLE VS. D. M. MARX.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In police court, city of Detroit. August 12, 1913: Complaint made. August 21, 1913: Defendant bound over to recorder's court for trial. September 3, 1913: Defendant entered a plea of guilty. Fined \$25.

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CASE NO. 937.

PEOPLE VS. A. MARK.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Detroit. August 12, 1913: Complaint made. Defendant bound over to recorder's court for trial. October 15, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 938.

PEOPLE VS. ADOLPHUS L. WILCOX.

Charge: Selling adulterated milk.

In justice court, city of Three Rivers. August 13, 1913: Complaint made. September 2, 1913: Defendant convicted. Fined \$5 and costs.

CASE NO. 939.

PEOPLE VS. ROBERT HIRT, JR.

Charge: Selling oleomargarine without posting legal sign.

In police court, city of Detroit. August 19, 1913: Complaint made. September 13, 1913: Defendant bound over to recorder's court for trial. October 11, 1913: Defendant convicted. Fined \$50.

CASE NO. 940.

PEOPLE VS. GEORGE WILLIAMS.

Charge: Sale of diseased meat.

In municipal court, city of Battle Creek. August 20, 1913: Complaint made. Defendant bound over to circuit court for trial. September 8, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 941.

PEOPLE VS. JOHN LEFF.

Charge: Sale of adulterated lard:

In police court, city of Grand Rapids. August 25, 1913: Complaint made. August 26, 1913: Defendant bound over to superior court for trial. September 2, 1913: Defendant entered a plea of guilty. Fined \$150 and costs.

CASE NO. 942.

PEOPLE VS. HENRY HEYMAN.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, city of Charlotte. August 25, 1913: Complaint made. September 4, 1913: Defendant bound over to circuit court for trial. October 13, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 943.

PEOPLE VS. JOSEPH KUKIELKA.

Charge: Conducting an insanitary meat market.

In police court, city of Detroit. August 26, 1913: Complaint made. September 2, 1913: Defendant bound over to recorder's court. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 944.

PEOPLE VS. LEONARD W. REITKEARK.

Charge: Sale of adulterated milk.

In municipal court, city of Kalamazoo. August 28, 1913: Complaint made. September 16, 1913: Defendant entered a plea of guilty. Fined \$2.50 and placed on probation.

CASE NO. 945.

PEOPLE VS. FRANK P. GOULD.

Charge: Sale of diseased meat.

In municipal court, city of Kalamazoo. August 28, 1913: Complaint made. September 17, 1913: Defendant discharged.

CASE NO. 946.

PEOPLE VS. AUGUST SCHMIDT.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Detroit. September 2, 1913: Complaint made. September 12, 1913: Defendant bound over to recorder's court for trial. October 18, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 947.

PEOPLE VS. H. A. STRAW.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, city of Coldwater. September 2, 1913: Complaint made. September 4, 1913: Defendant bound over to circuit court for trial. October 13, 1913: Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 948.

PEOPLE VS. JOSEPH TANSKY.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Detroit. September 3, 1913: Complaint made. September 9, 1913: Defendant bound over to recorder's court for trial. October 15, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 949.

PEOPLE VS. CARL PEISCHKE & HERMAN KILLIAN.

Charge: Selling sausage containing an excessive amount of cereal.

In police court, city of Detroit. September 10, 1913: Complaint made. September 19, 1913: Defendant bound over to recorder's court for trial. October 23, 1913: Defendant convicted. Fined \$100.

CASE NO. 950.

PEOPLE VS. FRED J. TOREE, MGR. FOR SWIFT & CO.

Charge: Selling sausage containing excessive cereal.

In police court, city of Detroit. September 10, 1913: Complaint made. September 19, 1913: Defendant bound over to recorder's court for trial. October 21, 1913: Defendant convicted. Fined \$100.

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CASE NO. 951.

PEOPLE VS. KONSTAN SEROPOLUS.

Charge: Selling lard compound without stamping.

In police court, city of Detroit. September 10, 1913: Complaint made. September 19, 1913: Defendant bound over to recorder's court for trial. October 15, 1913: Defendant entered a plea of guilty. Fined \$50.

CASE NO. 952.

PEOPLE VS. WILLIAM HORTON.

Charge: Selling lard compound without stamping.

—In justice court, city of Ithaca. September 10, 1913: Complaint made. September 12, 1913: Defendant entered a plea of guilty. Sentence suspended.

CASE NO. 953.

PEOPLE VS. W. H. MCRAE.

Charge Selling lard compound without stamping.

In justice court, city of Ithaca. September 10, 1913: Complaint made. September 11, 1913: Defendant bound over to circuit court for trial. Defendant entered a plea of guilty. Sentence suspended.

CASE NO. 954.

PEOPLE VS. I. N. DAUBMYRE (CHILDS RESTAURANT).

Charge: Serving oleomargarine without displaying sign in conspicuous place.

In police court, city of Detroit. September 11, 1913: Complaint made. Case dismissed.

CASE NO. 955.

PEOPLE VS. WM. DITTMAR.

Charge: Selling adulterated milk.

In justice court of Wayne county. September 12, 1913: Complaint made. October 20, 1913: Defendant convicted. Fined \$25 and costs.

CASE NO. 956.

PEOPLE VS. ADOLPH MOERS.

Charge: Selling adulterated milk.

In justice court of Wayne county. September 12, 1913: Complaint made. October 20, 1913: Defendant convicted. Fined \$25 and costs.

CASE NO. 957.

PEOPLE VS. FRANK TEMPEL.

Charge: Selling adulterated milk.

In justice court, Wayne county. September 12, 1913: Complaint made. October 20, 1913: Examination held. Case dismissed.

CASE NO. 958.

PEOPLE VS. JOHN PLUFF.

Charge: Selling oleomargarine without stamping.

In police court, city of Detroit. September 13, 1913: Complaint made. September 30, 1913: Defendant bound over to recorder's court for trial. October 15, 1913: Defendant entered a plea of guilty. Fined \$50.

CASE NO. 959.

PEOPLE VS. ROBERT MORRIS.

Charge: Selling adulterated milk.

In justice court of Montrose. September 16, 1913: Complaint made. October 30, 1913: Examination held. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 960.

PEOPLE VS. WEBER & BOSSONG.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Jackson. September 17, 1913: Complaint made. Bound over to circuit court for trial. November 10, 1913: Defendants entered a plea of guilty. Fined \$25 and costs.

CASE NO. 961.

PEOPLE VS. GEO. MOLLENKOPF.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Jackson. September 17, 1913: Complaint made. Defendant waived examination and was bound over to the circuit court for trial. November 10, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 962.

PEOPLE VS. DIRK MULDER.

Charge: Conducting an insanitary place of business.

In police court, city of Muskegon. September 18, 1913: Complaint made. Defendant was bound over to the circuit court for trial. October 27, 1913: Defendant entered a plea of guilty.

CASE NO. 963.

PEOPLE VS. N. D. SOLON (PONTIAC RESTAURANT).

Charge: Serving oleomargarine without displaying sign.

In justice court, city of Pontiac. September 22, 1913: Complaint made. October 25, 1913: Defendant bound over to circuit court for trial. December 1, 1913: Defendant entered a plea of guilty. Sentence deferred.

CASE NO. 964.

PEOPLE VS. PETER KUFTA.

Charge: Conducting an insanitary bakery.

In police court, city of Muskegon. September 26, 1913: Complaint made. Bound over to circuit court for trial. October 28, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 965.

PEOPLE VS. WALTER KELESZA.

Charge: Conducting an insanitary bakery.

In police court, city of Muskegon. September 26, 1913: Complaint made. Bound over to circuit court for trial. Later respondent dismissed.

CASE NO. 966.

PEOPLE VS. FRANK GOETZL.

Charge: Selling unwholesome veal.

In police court, city of Muskegon. October 2, 1913: Complaint made. October 3, 1913: Defendant entered a plea of guilty. Fined \$50 and costs.

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CASE NO. 967.

PEOPLE VS. J. P. ACKERMAN.

Charge: Selling adulterated milk.

In justice court, city of Monroe. October 2, 1913: Complaint made. October 4, 1913: Defendant entered a plea of guilty. Fined \$20 and costs.

CASE NO. 968.

PEOPLE VS. J. H. STOTZ.

Charge: Selling adulterated milk.

In justice court, city of Monroe. October 2, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 969.

PEOPLE VS. SAMUEL PRIESTIE.

Charge: Selling adulterated milk.

In justice court, village of Wilson, Menominee county. October 2, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 970.

PEOPLE VS. JAMES KOSINSKI.

Charge: Selling adulterated milk.

In justice court, village of Wilson, Menominee county. October 7, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 971.

PEOPLE VS. PIPER ICE CREAM CO.

Charge: Selling ice cream below standard.

In police court, city of Kalamazoo. October 8, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$55.

CASE NO. 972.

PEOPLE VS. ED. CONKLIN.

Charge: Using short measures.

In police court, city of Detroit. October 8, 1913: Complaint made. October 18, 1913: Case dismissed.

CASE NO. 973.

PEOPLE VS. DWIGHT MILLER.

Charge: Shipping insanitary ice cream cans.

In justice court, city of Coldwater. October 9, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$15.

CASE NO. 974.

PEOPLE VS. DIRK MULDER.

Charge: Selling adulterated lard.

In police court, city of Muskegon. October 14, 1913: Complaint made. Defendant bound over to circuit court for trial. October 27, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 975.

PEOPLE VS. THOS. A. WILKINSON.

Red Front Cash Grocery & Drug Store.

Charge: Deceptive advertising.

In police court, city of Muskegon. October 14, 1913: Complaint made. Defendant bound over to circuit court for trial. October 31, 1913: Defendant acquitted.

CASE 976.

PEOPLE VS. ALBERT J. WIBOLDA.

Charge: Selling sausage containing excessive cereal.

In police court, city of Muskegon, October 14, 1913: Complaint made. Defendant bound over to circuit court for trial. October 28, 1913: Defendant entered a plea of guilty.

CASE NO. 977.

PEOPLE VS. ANDREW LONGLAND.

Charge: Selling oleomargarine without displaying sign.

In police court, city of Muskegon, October 14, 1913: Complaint made. Defendant bound over to circuit court for trial. October 28, 1913: Defendant entered a plea of guilty.

CASE NO. 978.

PEOPLE VS. JOHN S. ANDERSON.

Charge: Selling adulterated lard.

In police court, city of Muskegon, October 14, 1913: Complaint made. Defendant bound over to circuit court for trial. October 28, 1913: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 979.

PEOPLE VS. RAYMOND & HARRY SCHRODER.

Charge: Untrue, deceptive and misleading advertising.

In justice court, city of Battle Creek, October 25, 1913: Complaint made. Defendant bound over to circuit court for trial. February 13, 1914: Defendant convicted. Fined \$25 and costs.

CASE NO. 980.

PEOPLE VS. NICHOLAS KURIS.

Charge: Conducting an insanitary restaurant.

In police court, city of Muskegon. October 16, 1913: Complaint made. Defendant bound over to circuit court for trial. October 29, 1913: Defendant acquitted.

CASE NO. 981.

PEOPLE VS. ELMER L. COLE.

Charge: Selling adulterated milk.

In justice court, city of Battle Creek. October 25, 1913: Complaint made. October 31, 1913: Defendant convicted. Fined \$15 and costs.

CASE NO. 982.

PEOPLE VS. BERNHARDT JACOBS.

Charge: Obstruction of inspector.

In police court, city of Detroit. October 24, 1913: Complaint made. November

11, 1913: Defendant bound over to recorder's court for trial. December 3, 1913: Defendant convicted. Appealed.

CASE NO. 983.

PEOPLE VS. JAMES CAMPBELL.

Charge: Selling lard compound without stamping.

In justice court, city of Reed City. November 4, 1913: Complaint made. Defendant bound over to circuit court for trial. December 1, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 984.

PEOPLE VS. D. B. KETCHUM.

Charge: Selling lard compound without stamping.

In justice court, city of Reed City. November 4, 1913: Complaint made. Defendant bound over to circuit court for trial. November 5, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 985.

PEOPLE VS. RICHARD BAQUEPAW.

Charge: Selling adulterated milk.

In justice court, city of Saginaw. November 1, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$75 and costs.

CASE NO. 986.

PEOPLE VS. MRS. MARY HOGLAND.

Charge: Selling adulterated milk.

In justice court, city of Saginaw. November 1, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 987.

PEOPLE VS. JOHN A. PETERS.

Charge: selling sausage containing sulphites.

In police court city of Detroit. November 6, 1913: Complaint made. November 13, 1913: Defendant bound over to recorder's court for trial. Defendant entered a plea of guilty. Fined \$100.

CASE NO. 988.

PEOPLE VS. OTTO LUNOWS.

Charge: Selling sausage containing an excessive amount of cereal.

In police court, city of Muskegon. November 12, 1913: Complaint made. Case dismissed.

CASE NO. 989.

PEOPLE VS. JOHN BAZLEY.

Charge: Using sulphites in manufacture of Hamburg Steak.

In justice court, city of Flint. November 12, 1913: Complaint made. March 3, 1914. Case dismissed.

CASE NO. 990.

PEOPLE VS. ERHARDT SCHRAUDER.

Charge: Selling sausage containing an excessive amount of cereal.

In justice court, city of Monroe. November 13, 1913: Complaint made. De-

ember 1, 1913: Defendant bound over to circuit court for trial. Defendant entered a plea of guilty. Fined \$100 and costs.

CASE NO. 991.

PEOPLE VS. FRANK HACK.

Charge: Selling sausage containing an excessive amount of cereal.

In justice court, city of Monroe. November 13, 1913: Complaint made. Defendant bound over to circuit court for trial. A plea of guilty was entered and a fine of \$100 and costs was imposed.

CASE NO. 992.

PEOPLE VS. A. HADLEY.

Charge: Selling adulterated milk.

In justice court, city of Battle Creek. November 20, 1913: Complaint made. November 20, 1913: Defendant entered a plea of guilty. Fined \$20 and costs.

CASE NO. 993.

PEOPLE VS. M. G. SCHNEIDER.

Charge: Selling sausage containing an excessive amount of cereal.

In justice court, city of Corunna. November 29, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Defendant entered a plea of guilty. Fined \$10 and costs and was placed on probation for three months.

CASE NO. 994.

PEOPLE VS. V. P. SKINNER & ANDREW WILSON.

Charge: Sale of decomposed chickens.

In municipal court, city of Battle Creek. December 1, 1913: Complaint made. December 13, 1913: Defendant waived examination and was bound over to circuit court for trial. February 2, 1914: Defendants entered a plea of guilty and were fined \$25 each.

CASE NO. 995.

PEOPLE VS. HENRY DAANE.

Charge: Selling diseased meat.

In police court, city of Grand Rapids. December 1, 1914: Complaint made. Defendant bound over to Superior court for trial. June 30, 1914: Case nolle prossed.

CASE NO. 996.

PEOPLE VS. FRANK PREUSS.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, city of Lansing. December 1, 1913: Complaint made. Defendant bound over to circuit court for trial. Entered plea of guilty and was fined \$25 and sentenced to serve 30 days in county jail.

CASE NO. 997.

PEOPLE VS. GIOVAN B. RUSSO.

Charge: Maintaining an insanitary bakery.

In police court city of Grand Rapids. December 2, 1913: Complaint made. Bound over to superior court for trial. April 30, 1914: Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 998.

PEOPLE VS. EDWARD C. BICKING.

Charge: Selling cranberries by liquid measure.

In justice court, city of Monroe. December 3, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$20 and costs.

CASE NO. 999.

PEOPLE VS. JOHN EICHHOEN.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Detroit. December 3, 1913: Complaint made. December 10, 1913: Defendant bound over to recorder's court for trial. January 20, 1914: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 1000.

PEOPLE VS. FRED SCHANDT.

Charge: Selling colored oleomargarine.

In police court, city of Detroit. December 3, 1913: Complaint made. Bound over to recorder's court for trial. March 17, 1914: Defendant entered a plea of guilty. Fined \$5.

CASE NO. 1001.

PEOPLE VS. DEHN BROS.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Bay City. December 4, 1913: Complaint made. December 8, 1913: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 1002.

PEOPLE VS. CHAS. EBERSTEIN.

Charge: Selling adulterated milk.

In municipal court city of Battle Creek. December 5, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1003.

PEOPLE VS. CHRIS BAUER.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court city of Albion. December 5, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1004.

PEOPLE VS. JOHN BINZ.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Bay City. December 11, 1913: Complaint made. February 24, 1914: Defendant discharged.

CASE NO. 1005.

PEOPLE VS. M. E. TALMAGE.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, city of Albion. December 5, 1913: Complaint made. January 12, 1914: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1006.

PEOPLE VS. CUDAHY PACKING CO., ED. NIEMEYER, MGR.

Charge: Selling adulterated oysters.

In justice court, city of Houghton. December 14, 1913: Complaint made. January 6, 1914: Defendant waived examination and was bound over to circuit court for trial. January 26, 1914: Defendant entered a plea of guilty and was fined \$25 and costs.

CASE NO. 1007.

PEOPLE VS. HENRY OPAL.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, village of Hubbell. December 16, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1008.

PEOPLE VS. LARRABEE & SON.

Charge: Selling lard compound without stamping.

In justice court, city of Lansing. December 18, 1913: Complaint made. January 29, 1914. Defendant acquitted.

CASE NO. 1009.

PEOPLE VS. BAZLEY MARKET CO.

Charge: Selling sausage containing cereal and not stamping.

In justice court, city of Lansing. December 18, 1913: Complaint made. Case dismissed.

CASE NO. 1010.

PEOPLE VS. JOHN M. & HENRY BOPP, (CHICAGO MARKET).

Charge: Using sulphurous acid in Hamburg Steak.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1011.

PEOPLE VS. HENRY A. MAIER.

Charge: Sale of adulterated milk.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$4.

CASE NO. 1012.

PEOPLE VS. ELMER CLAPHAM.

Charge: Selling lard compound without stamping.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Entered a plea of guilty and was fined \$25 and costs.

CASE NO. 1013.

PEOPLE VS. O. LAVERNE STONE.

Charge: Sale of lard compound without stamping.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. January 29, 1914: Defendant acquitted.

STATE OF MICHIGAN.

CASE NO. 1014.

PEOPLE VS. KIRK VAN WINKLE.

Charge: Sale of lard compound without stamping.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Case dismissed.

CASE NO. 1015.

PEOPLE VS. BARNARD & WIMBLE.

Charge: Sale of lard compound without stamping.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant bound over to circuit court for trial. Case dismissed.

CASE NO. 1016.

PEOPLE VS. ROBERT ELLWANGER.

Charge: Sale of milk kept and transported in rusty and open seamed cans.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$4 costs.

CASE NO. 1017.

PEOPLE VS. F. GREER.

Charge: Sale of milk kept and transported in rusty and open seamed cans.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$4 costs.

CASE NO. 1018.

PEOPLE VS. FRANK KING.

Charge: Sale of milk kept and transported in rusty and open seamed cans.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$4 costs.

CASE NO. 1019.

PEOPLE VS. DON E. GARLOCK.

Charge: Sale of milk kept and transported in rusty and open seamed cans.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant entered a plea of guilty. Fined \$4 costs.

CASE NO. 1020.

PEOPLE VS. MORGAN C. SANDERS.

Charge: Sale of lard compound without stamping.

In justice court, city of Lansing. December 18, 1913: Complaint made. January 16, 1914: Case dismissed.

CASE NO. 1021.

PEOPLE VS. EDGAR BOHE.

Charge: Sale of milk kept and transported in rusty and open seamed cans.

In justice court, city of Lansing. December 18, 1913: Complaint made. Defendant entered a plea of guilty and was fined \$4 costs.

CASE NO. 1022.

PEOPLE VS. GEORGE DECKE.

Charge: Sale of lard compound without stamping.
In justice court, city of Lansing. December 18, 1913: Complaint made. January 16, 1914: Case dismissed.

CASE NO. 1023.

PEOPLE VS. DEL YOUNG.

Charge: Sale of insanitary milk.
In justice court, city of Battle Creek. December 20, 1913: Complaint made. January 9, 1914: Defendant acquitted.

CASE NO. 1024.

PEOPLE VS. THOS. FAUST.

Charge: Selling colored oleomargarine.
In police court, city of Detroit. December 29, 1913: Complaint made. January 20, 1914: Defendant bound over to recorder's court for trial. Entered a plea of guilty. Fined \$50 and costs.

CASE NO. 1025.

PEOPLE VS. VANDELIN STANEK.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In justice court, city of Traverse City. January 6, 1914: Complaint made. Bound over to circuit court for trial. January 7, 1914: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1026.

PEOPLE VS. EDMUND KIELING.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In justice court, city of Manistee. January 8, 1914: Complaint made. Defendant bound over to circuit court for trial. Entered a plea of guilty and was fined \$25 and costs.

CASE NO. 1027.

PEOPLE VS. ANTON JANECKE.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In justice court, city of Manistee. January, 9, 1914: Complaint made. Defendant bound over to circuit court for trial. Entered a plea of guilty and was fined \$25 and costs.

CASE NO. 1028.

PEOPLE VS. JOSEPH WAAL.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In justice court, city of Manistee. January, 9, 1914: Complaint made. Defendant bound over to circuit court for trial. Entered a plea of guilty and was fined \$25 and costs.

CASE NO. 1029.

PEOPLE VS. ANTON SCHLEIF.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In justice court, city of Manistee. January 9, 1914: Complaint made. Defendant bound over to circuit court for trial. Entered a plea of guilty and was fined \$25 and costs.

STATE OF MICHIGAN.

CASE NO. 1030.

PEOPLE VS. CLARENCE E. STERN.

Charge: Selling adulterated milk.

In justice court, city of Gladstone. January 12, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1031.

PEOPLE VS. GEO. W. GREEN.

Charge: Selling adulterated milk.

In justice court, city of Gladstone. January 12, 1914: Complaint made. Defendant entered a plea of guilty and was fined \$5 and costs.

CASE NO. 1032.

PEOPLE VS. CHAS. SMITH.

Charge: Selling adulterated milk.

In justice court, city of Adrian. January 13, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 1033.

PEOPLE VS. FRED ENGLISH.

Charge: Selling adulterated milk.

In justice court, city of Sturgis. January 26, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1034.

PEOPLE VS. GEORGE NEEDHAM.

Charge: Sale of adulterated milk.

In justice court, city of St. Louis. January 28, 1914: Complaint made. February 2, 1914: Defendant entered a plea of guilty. Fined \$20 and costs.

CASE NO. 1035.

PEOPLE VS. WM. BOBIE, OF BRECKENRIDGE.

Charge: Selling adulterated milk.

In justice court, city of St. Louis. January 28, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15.

CASE NO. 1036.

PEOPLE VS. JOS. BURTON.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, village of Ontonagon. February 2, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1037.

PEOPLE VS. W. S. CARROL.

Charge: Sale of adulterated lard.

In police court, city of Detroit. February 5, 1914: Complaint made. Bound over to recorder's court for trial. February 20, 1914: Defendant convicted. Fined \$25.

CASE NO. 1038.

PEOPLE VS. THEO. KLUCK.

Charge: Sale of adulterated milk.
In justice court, city of Ann Arbor. February 13, 1914: Complaint made.
February 16, 1914: Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1039.

PEOPLE VS. CHAS. MARION.

Charge: Selling renovated butter without stamping.
In justice court, city of Sault Ste. Marie. February 13, 1914: Complaint made.
Case pending.

CASE NO. 1040.

PEOPLE VS. T. J. HENNES.

Charge: Selling Hamburg Steak containing sulphites.
In justice court, of Lake Linden. February 16, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1041.

PEOPLE VS. CHAS. W. ROGERS.

Charge: Selling colored oleomargarine.
In police court, city of Detroit. February 16, 1914: Complaint made. February 24, 1914: Defendant bound over to recorder's court for trial. March 24, 1914: Defendant acquitted.

CASE NO. 1042.

PEOPLE VS. PETER SLITER.

Charge: Using sulphites in the manufacture of Hamburg Steak.
In municipal court, city of Kalamazoo. February 20, 1914: Complaint made. Defendant waived examination and was bound over to circuit court for trial. March 3, 1914: Defendant entered a plea of guilty. Fined \$100.

CASE NO. 1043.

PEOPLE VS. W. H. CROOSE.

Charge: Sale of sausage containing excessive cereal.
In justice court, city of Hillsdale. February 26, 1914: Complaint made. Defendant waived examination and was bound over to circuit court for trial. March 13, 1914: Defendant entered a plea of guilty. Sentence suspended until October term.

CASE NO. 1044.

PEOPLE VS. ALFRED J. COLVIN.

Charge: Sale of sausage containing excessive cereal.
In justice court, city of Hillsdale. February 26, 1914: Complaint made. Defendant waived examination and was bound over to circuit court for trial. March 13, 1914: A plea of guilty was entered. Sentence was suspended until the October term of court.

CASE NO. 1045.

PEOPLE VS. GEORGE GAVARIS.

Charge: Sale of adulterated milk.
In justice court, city of Hillsdale. February 26, 1914: Complaint made. March 20, 1914: Defendant acquitted.

STATE OF MICHIGAN.

CASE NO. 1046.

PEOPLE VS. DAN A. HOLLAND.

Charge: Sale of sausage containing excessive cereal.

In justice court, city of Hancock. February 28, 1914: Complaint made. Case nolle prossed.

CASE NO. 1047.

PEOPLE VS. WM. W. COOPER, (CROSSE & COOPER CO.).

Charge: Sale of sausage containing an excessive amount of cereal.

In justice court, city of Hillsdale. February 26, 1914: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Defendant entered a plea of guilty. Sentence suspended until October term of court.

CASE NO. 1048.

PEOPLE VS. JAY RICHMOND.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. March 6, 1914: Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1049.

PEOPLE VS. EDWIN A. TRIPP.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. March 28, 1914: Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1050.

PEOPLE VS. CLYDE A. TRIPP.

Charge: Selling of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. March 28, 1914: Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1051.

PEOPLE VS. WALTER J. DANIELS.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1052.

PEOPLE VS. BARTLEY KILLGALLIN.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. March 27, 1914: Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1053.

PEOPLE VS. GEORGE N. FORD.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1054.

PEOPLE VS. FRANK A. COLEMAN.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1055.

PEOPLE VS. SAMUEL BOYCE.

Charge: Sale of insanitary milk.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$6.15 costs.

CASE NO. 1056.

PEOPLE VS. JAMES E. TANSWELL.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1057.

PEOPLE VS. PETER MICHAEL.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. March 25, 1914: Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1058.

PEOPLE VS. ALEX. SAVOY.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. March 17, 1914: Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1059.

PEOPLE VS. GEORGE BERNARD.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. March 27, 1914: Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1060.

PEOPLE VS. GEORGE POLOPALOS.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1061.

PEOPLE VS. TOM CHOPORES.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

STATE OF MICHIGAN.

CASE NO. 1062.

PEOPLE VS. REBECCA JAMES.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined costs.

CASE NO. 1063.

PEOPLE VS. GEORGE BORES.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. March 26, 1914: Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1064.

PEOPLE VS. THOS. DONLEY.

Charge: Sale of adulterated milk.

In police court, city of Jackson. March 5, 1914: Complaint made. May 9, 1914: Defendant acquitted.

CASE NO. 1065.

PEOPLE VS. O. S. MOSHER.

Charge: Handling buttermilk in insanitary utensils.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1066.

PEOPLE VS. JOHN O. GILBERT.

Charge: Violation of the insanitary milk and cream law.

In police court, city of Jackson. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$16.19 costs.

CASE NO. 1067.

PEOPLE VS. HENRY LAUX.

Charge: Sale of adulterated milk.

In justice court, city of Saginaw. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1068.

PEOPLE VS. MIKE BOTH.

Charge: Sale of adulterated milk.

In justice court, city of Saginaw. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1069.

PEOPLE VS. MICHAEL W. KUNDINGER.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In police court, city of Saginaw. March 5, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1070.

PEOPLE VS. LOUIS GALINSKY.

Charge: Selling diseased pork.

In justice court, city of Boyne City. March 10, 1914: Complaint made. Defendant bound over to circuit court for trial. Case pending.

CASE NO. 1071.

PEOPLE VS. JOEL JOHNSON.

Charge: Sale of diseased horse meat.

In justice court, city of Boyne City. March 11, 1914: Complaint made. Defendant entered a plea of guilty. Sentenced to spend ninety days in jail.

CASE NO. 1072.

PEOPLE VS. JOEL JOHNSON.

Charge: Sale of diseased horse meat.

In justice court, city of Boyne City. March 11, 1914: Complaint made. Case nolle prossed.

CASE NO. 1073.

PEOPLE VS. ED. HEMMEKE.

Charge: Sale of adulterated milk.

In justice court, city of Zeeland. March 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1074.

PEOPLE VS. H. W. ELEMEN.

Charge: Sale of adulterated milk.

In justice court, city of Zeeland. March 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1075.

PEOPLE VS. WM. H. SHORT.

Charge: Selling oleomargarine without displaying sign.

In justice court, city of Midland. March 12, 1914: Complaint made. April 27, 1914: Defendant bound over to circuit court for trial. April 29, 1914: Defendant convicted. Sentence suspended.

CASE NO. 1076.

PEOPLE VS. FRED NAULT, (RESTAURANT).

Charge: Serving oleomargarine without displaying sign.

In justice court, city of Iron River. March 16, 1914: Complaint made. Defendant entered a plea of guilty. Sentence suspended on payment of costs.

CASE NO. 1077.

PEOPLE VS. C. A. LITTLE.

Charge: Sale of Tr. iodide not in conformity with legal standard.

In police court, city of Detroit. March 16, 1914: Complaint made. Case pending.

STATE OF MICHIGAN.

CASE NO. 1078.

PEOPLE VS. JOHN EREY.

Charge: Selling renovated butter without stamping.

In justice court, city of Iron River. March 16, 1914: Complaint made. Bound over to circuit court for trial. June 15, 1914: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1079.

PEOPLE VS. B. H. FANNING.

Charge: Sale of Spts. peppermint not in conformity with legal standard.

In police court, city of Detroit. March 16, 1914: Complaint made. May 5, 1914: Defendant entered a plea of guilty. Fined \$25.

CASE NO. 1080.

PEOPLE VS. M. E. GAMBLE.

Charge: Sale of Spts. peppermint not in conformity with legal standard.

In municipal court, city of Kalamazoo. March 17, 1914: Complaint made. Case dismissed.

CASE NO. 1081.

PEOPLE VS. RALPH E. BAXTER.

Charge: Sale of adulterated milk.

In justice court, city of Hillsdale. March 18, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1082.

PEOPLE VS. HARRY A. MACK.

Charge: Sale of adulterated milk.

In justice court, city of Hillsdale. March 19, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$4.20 and costs.

CASE NO. 1083.

PEOPLE VS. A. I. HASKINS.

Charge: Sale of adulterated milk.

In justice court, city of Hillsdale. March 19, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1084.

PEOPLE VS. CASSIUS M. SAWREY.

Charge: Sale of insanitary milk.

In justice court city of Hillsdale. March 19, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$4 costs.

CASE NO. 1085.

PEOPLE VS. HENRY MARTINMAKI.

Charge: Sale of sausage containing excessive cereal.

In justice court, city of Houghton. March 24, 1914: Complaint made. March 25, 1914: Defendant bound over to circuit court for trial. Case pending.

CASE NO. 1086.

PEOPLE VS. E. L. MOORE.

Charge: Sale of Tr. iodine not in conformity with legal standard.

In justice court, city of Albion. March 25, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1087.

PEOPLE VS. RICHARD WIRSING.

Charge: Sale of adulterated sausage.

In police court, city of Jackson. March 27, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1088.

PEOPLE VS. CHAS. E. PULVER.

Charge: Selling sausage containing excessive cereal.

In justice court, city of Traverse City. April 1, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$100 and costs.

CASE NO. 1089.

PEOPLE VS. JOSEPH MAXBAUER.

Charge: Selling sausage containing excessive cereal.

In justice court, city of Traverse City. April 1, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$100 and costs.

CASE NO. 1090.

PEOPLE VS. JOSEPH VRANT.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, city of Traverse City. April 1, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1091.

PEOPLE VS. GLEN LUTZ.

Charge: Using sulphites in the manufacture of Hamburg Steak.

In justice court, city of Traverse City. April 1, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1092.

PEOPLE VS. HUGO BREITENBACH.

Charge: Selling sausage containing excessive cereal.

In justice court, city of Escanaba. April 1, 1914: Complaint made. May 1, 1914: Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1093.

PEOPLE VS. F. G. LAFER.

Charge: Deceptive advertising.

In police court, city of Detroit. April 1, 1914: Complaint made. Defendant bound over to recorder's court for trial. Case pending.

STATE OF MICHIGAN

CASE NO. 1094.

PEOPLE VS. F. G. LAFER.

Charge: Deceptive advertising.

In police court, city of Detroit. April 1, 1914: Complaint made. Defendant bound over to recorder's court for trial. Case pending.

CASE NO. 1095.

PEOPLE VS. F. W. GORDON.

Charge: Selling camphor liniment not in conformity with legal standard.

In police court, city of Detroit. April 2, 1914: Complaint made. Case pending.

CASE NO. 1096.

PEOPLE VS. ALBERT WHEATLEY.

Charge: Selling oleomargarine without displaying legal sign.

In justice court, city of Sault Ste. Marie. April 7, 1914: Complaint made. Case pending.

CASE NO. 1097.

PEOPLE VS. E. C. REIDY.

Charge: Selling renovated butter without stamping.

In justice court, city of Sault Ste. Marie. April 7, 1914: Complaint made. Case pending.

CASE NO. 1098.

PEOPLE VS. W. J. TAPERT, (MGR. CORNWELL BEEF CO.).

Charge: Selling sausage containing an excessive amount of cereal.

In justice court, city of Sault Ste. Marie. April 7, 1914: Complaint made. Case pending.

CASE NO. 1099.

PEOPLE VS. J. A. ROBERG.

Charge: Selling oleomargarine without displaying legal sign.

In justice court, city of Sault Ste. Marie. April 7, 1914: Complaint made. Case pending.

CASE NO. 1100.

PEOPLE VS. PATRICK GUIRE.

Charge: Selling diseased beef.

In justice court, city of Cheboygan. April 9, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$20 and costs.

CASE NO. 1101.

PEOPLE VS. AREND BROUWER.

Charge: Selling adulterated milk.

In justice court, city of Zeeland. April 13, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$17 and costs.

CASE NO. 1102.

PEOPLE VS. JOHN B. SLAGH.

Charge: Delivering milk in insanitary cans.

In justice court, city of Zeeland. April 14, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1103.

PEOPLE VS. MARCUS VINKEMULDER.

Charge: Delivering milk in insanitary cans.
In justice court, city of Zeeland. April 15, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1104.

PEOPLE VS. KLASS VANDEBERG.

Charge: Delivering milk in insanitary cans.
In justice court, city of Zeeland. April 14, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1105.

PEOPLE VS. JOHN J. SMITH.

Charge: Selling milk from insanitary cans.
In justice court, city of Zeeland. April 14, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1106.

PEOPLE VS. HENRY KRUTHOF.

Charge: Selling milk from insanitary cans.
In justice court, city of Zeeland. April 14, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1107.

PEOPLE VS. STEVE MELKA.

Charge: Selling sausage containing an excessive amount of cereal.
In justice court, city of Ishpeming. April 17, 1914: Complaint made. April 22, 1914: Case dismissed on payment of \$5 costs.

CASE NO. 1108.

PEOPLE VS. LEWIS ELIASOHN.

Charge: Selling sausage containing an excessive amount of cereal.
In justice court, city of Ludington. April 22, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$100 and costs.

CASE NO. 1109.

PEOPLE VS. ELMER ABRAHAMSON.

Charge: Selling renovated butter without stamping.
In justice court, city of Ludington. April 21, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1110.

PEOPLE VS. GEORGE HOWARD.

Charge: Sale of adulterated sausage.
In justice court, city of Albion. April 22, 1914: Complaint made. April 23, 1914: Defendant bound over to circuit court for trial. Entered a plea of guilty and sentence was suspended.

STATE OF MICHIGAN.

CASE NO. 1111.

PEOPLE VS. JAMES B. SMITH.

Charge: Sale of adulterated sausage.

In justice court, city of Albion. April 22, 1914: Complaint made. April 23, 1914: Defendant bound over to circuit court for trial. May 4, 1914: Defendant entered a plea of guilty and was fined \$100.

CASE NO. 1112.

PEOPLE VS. MAX TULGETCK.

Charge: Selling frozen and rotten potatoes.

In justice court of Rogers City. April 23, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1113.

PEOPLE VS. HARRY LAMB.

Charge: Selling milk from cows fed on refuse.

In justice court, of Rogers City. April 23, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1114.

PEOPLE VS. CLARE F. PUGSLEY.

Charge: Selling sausage containing an excessive amount of cereal.

In justice court, city of Dowagiac. April 23, 1914: Complaint made. April 23, 1914: Defendant bound over to circuit court for trial. Case pending.

CASE NO. 1115.

PEOPLE VS. CLARENCE SQUIRES.

Charge: Selling sausage containing an excessive amount of cereal.

In justice court, city of Dowagiac. April 23, 1914: Complaint made. April 23, 1914: Defendant bound over to circuit court for trial. Case pending.

CASE NO. 1116.

PEOPLE VS. W. A. PORTEOUS, MGR. HAY MFG. CO.

Charge: Selling salad dressing on which the net weight was incorrectly stated.

In police court, city of Detroit. May 1, 1914: Complaint made. May 22, 1914: Defendant bound over to the recorder's court for trial. Case pending.

CASE NO. 1117.

PEOPLE VS. CHAS. LAMBRIX.

Charge: Selling diseased meat.

In justice court, city of Ludington. May 6, 1914: Complaint made. May 9, 1914: Defendant bound over to circuit court for trial. June 2, 1914: Court quashed information on point of law. Case dismissed.

CASE NO. 1118.

PEOPLE VS. JOHN OLILLA.

Charge: Selling one peck potatoes short weight.

In justice court, city of Negaunee. May 8, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$20 and costs.

CASE NO. 1119.

PEOPLE VS. FRANK C. OWINGS.

Charge: Intent to sell insanitary milk.
In justice court, city of Charlotte. May 11, 1914: Complaint made. May 19, 1914: Defendant convicted. Fined \$15.

CASE NO. 1120.

PEOPLE VS. PROKOP KYSELKA.

Charge: Sale of adulterated lard.
In justice court, city of Traverse City. May 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1121.

PEOPLE VS. NICK GUNTER.

Charge: Selling sausage containing an excessive amount of cereal.
In justice court, city of Escanaba. May 15, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$25 and costs.

CASE NO. 1122.

PEOPLE VS. H. LAARMAN.

Charge: Using insanitary milk cans.
In justice court, city of Zeeland. May 20, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1123.

PEOPLE VS. HARRY NIENHUIS.

Charge: Using insanitary milk cans.
In justice court, city of Zeeland. May 20, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1124.

PEOPLE VS. GARRETT LIEVENSE.

Charge: Using insanitary milk cans.
In justice court, city of Zeeland. May 20, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1125.

PEOPLE VS. MAX KOHN.

Charge: Using cereal in the manufacture of Hamburg Steak and not stamping same.
In justice court, city of Detroit. May 27, 1914: Complaint made. June 4, 1914: Defendant bound over to recorder's court for trial. Case pending.

CASE NO. 1126.

PEOPLE VS. DELL A. CHRISTY.

Charge: Selling sausage containing an excessive amount of cereal.
In justice court, city of Detroit. May 27, 1914: Complaint made. June 4, 1914: Defendant bound over to recorder's court for trial. Case pending.

STATE OF MICHIGAN

CASE NO. 1127.

PEOPLE VS. MCBRIDE, EARL & POLLARD.

Charge: Using saccharine in the manufacture of pop.

In police court, city of Detroit. May 27, 1914: Complaint made. Case pending.

CASE NO. 1128.

PEOPLE VS. STANLEY STAUFFER.

Charge: Sale of adulterated milk.

In justice court, city of Hillsdale. May 28, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1129.

PEOPLE VS. SHERMAN RICKARD.

Charge: Sale of adulterated milk.

In justice court, city of Hillsdale. May 28, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1130.

PEOPLE VS. ED. ACKLEY.

Charge: Sale of insanitary milk.

In justice court, city of Hillsdale. May 28, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1131.

PEOPLE VS. ABRAHAM FERRIS.

Charge: Obstructing an inspector in the performance of his duty.

In police court, city of Sault Ste. Marie. June 6, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

CASE NO. 1132.

PEOPLE VS. JOHN H. ROACH, PROP. CENTRAL HOTEL, LAURIUM.

Charge: Serving oleomargarine without displaying sign.

In justice court, of Laurium. June 8, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$50 and costs.

CASE NO. 1133.

PEOPLE VS. JOHN A. PETERS.

Charge: Selling sausage containing an excessive amount of cereal.

In police court, city of Detroit. June 8, 1914: Complaint made. Case pending.

CASE NO. 1134.

PEOPLE VS. HARLAN LACKY.

Charge: Selling sausage containing an excessive amount of cereal.

In justice court, city of Dowagiac. June 9, 1914: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Case pending.

CASE NO. 1135.

PEOPLE VS. M. BOERSINA & SONS.

Charge: Selling sausage containing an excessive amount of cereal.
In recorder's court, city of Cadillac. June 9, 1914: Complaint made. Case pending.

CASE NO. 1136.

PEOPLE VS. CURTIS & GRANT.

Charge: Selling sausage containing an excessive amount of cereal.
In recorder's court, city of Cadillac. June 9, 1914: Complaint made. Case pending.

CASE NO. 1137.

PEOPLE VS. HARRY H. KINGSLEY.

Charge: Selling sausage containing an excessive amount of cereal.
In recorder's court, city of Cadillac. June 9, 1914: Complaint made. Case pending.

CASE NO. 1138.

PEOPLE VS. MCCOY & MARCUS.

Charge: Selling sausage containing cereal without labeling.
In recorder's court, city of Cadillac. June 9, 1914: Complaint made. Case pending.

CASE NO. 1139.

PEOPLE VS. FRANK GREGG.

Charge: Sale of adulterated milk.
In recorder's court, city of Cadillac. June 9, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1140.

PEOPLE VS. CHAS. W. ZIEGLER.

Charge: Sale of adulterated milk.
In recorder's court, city of Cadillac. June 9, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1141.

PEOPLE VS. LANEY & MARQUETTE.

Charge: Sale of adulterated milk.
In recorder's court, city of Cadillac. June 9, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10 and costs.

CASE NO. 1142.

PEOPLE VS. FRANK W. PALMER.

Charge: Conducting an insanitary dairy.
In justice court of Frankfort. June 10, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$15 and costs.

STATE OF MICHIGAN

CASE NO. 1143.

PEOPLE VS. M. A. JOHNSON.

Charge: Sale of insanitary milk.

In justice court, city of Coldwater. June 11, 1914: Complaint made. June 23, 1914: Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1144.

PEOPLE VS. F. E. ROBINSON.

Charge: Sale of adulterated milk.

In justice court, city of Coldwater. June 11, 1914: Complaint made. Case dismissed.

CASE NO. 1145.

PEOPLE VS. CLARK SALISBURY.

Charge: Sale of adulterated milk.

In justice court, city of Coldwater. June 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1146.

PEOPLE VS. A. C. HADLOCK.

Charge: Sale of adulterated milk.

In justice court, city of Coldwater. June 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1147.

PEOPLE VS. W. HALLENBECK.

Charge: Sale of adulterated milk.

In justice court, city of Coldwater. June 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$8.

CASE NO. 1148.

PEOPLE VS. C. H. RUSSELL.

Charge: Sale of adulterated milk.

In justice court, city of Coldwater. June 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1149.

PEOPLE VS. R. W. GROVE.

Charge: Sale of adulterated milk.

In justice court, city of Coldwater. June 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1150.

PEOPLE VS. FRANK CHAPMAN.

Charge: Sale of adulterated milk.

In justice court, city of Coldwater. June 11, 1914: Complaint made. June 25, 1914: Defendant convicted. Fined \$10.

CASE NO. 1151.

PEOPLE VS. CHAS. MURDOCK.

Charge: Sale of adulterated milk.
In justice court, city of Coldwater. June 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1152.

PEOPLE VS. LEANDER GIFFORD.

Charge: Sale of adulterated milk.
In justice court, city of Coldwater. June 11, 1914: Complaint made. Case dismissed.

CASE NO. 1153.

PEOPLE VS. A. L. SMITH.

Charge: Sale of insanitary milk.
In justice court, city of Coldwater. June 11, 1914: Complaint made. June 25, 1914: Defendant convicted. Fined \$10.

CASE NO. 1154.

PEOPLE VS. A. E. HAYWARD.

Charge: Sale of adulterated milk.
In justice court, city of Coldwater. June 11, 1914: Complaint made. Defendant entered a plea of guilty. Fined \$10.

CASE NO. 1155.

PEOPLE VS. WM. STUREWALD.

Charge: Sale of insanitary milk.
In justice court, of Hudson. June 11, 1914: Complaint made. June 18, 1914: Defendant entered a plea of guilty. Fined \$3.95 costs.

CASE NO. 1156.

PEOPLE VS. PEARL BROWNELL.

Charge: Sale of insanitary milk.
In justice court, of Hudson. June 11, 1914. Complaint made. June 16, 1914: Defendant entered a plea of guilty. Fined \$5 and costs.

CASE NO. 1157.

PEOPLE VS. EXCELSIOR PHARMACY.

Charge: Selling Tr. Iodine not in conformity with U. S. P. requirements.
In police court, city of Detroit. June 16, 1914: Complaint made. Case pending.

CASE NO. 1158.

PEOPLE VS. ROBINSON PHARMACY.

Charge: Selling camphor liniment not in conformity with legal requirements.
In police court, city of Detroit. June 16, 1914: Complaint made. Case pending.

STATE OF MICHIGAN.

CASE NO. 1159.

PEOPLE VS. GRAHAM O. MOOMBER.

Charge: Sale of drug containing morphine and alcohol not legally labeled.

In justice court, city of St. Joseph. June 17, 1914: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Case pending.

CASE NO. 1160.

PEOPLE VS. DWIGHT C. PARKER.

Charge: Sale of sausage containing cereal without stamping.

In justice court, of Paw Paw. June 19, 1914: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Case pending.

CASE NO. 1161.

PEOPLE VS. WILBUR J. WARNER.

Charge: Selling Hamburg Steak containing sulphites.

In justice court, of Paw Paw. June 19, 1914: Complaint made. Defendant waived examination and was bound over to circuit court for trial. Case pending.

CASE NO. 1162.

PEOPLE VS. PROP. COOPERATIVE HOTEL, CADILLAC.

Charge: Serving oleomargarine in hotel without displaying sign.

In recorder's court, city of Cadillac. June 30, 1914: Complaint made. Defendant bound over to circuit court for trial. Case pending.

CASE NO. 1163.

PEOPLE VS. FRANK CORNWELL.

Charge: Selling oleomargarine without displaying sign.

In police court, city of Cadillac. June 30, 1914: Complaint made. Defendant bound over to circuit court for trial. Case pending.

FINANCIAL STATEMENT.



FINANCIAL STATEMENT.

From July 1, 1913, to June 30, 1914.

Funds available July 1, 1913.....	\$35,000 00
Fees collected for registration of creameries, cheese factories, etc.....	7,650 00
Fees collected for concentrated commercial feeding stuffs.....	5,780 00
Fees collected for milk dealers' licenses.....	1,780 00
Fees collected for ice cream manufacturers' licenses.....	2,295 00
Fees collected for commission merchants' licenses.....	1,365 00
Miscellaneous	10 55

\$53,889 55

DISBURSEMENTS.

James W. Helme, Commissioner, salary.....	\$2,000 00
Burr B. Lincoln, Deputy Commissioner, salary.....	750 00
F. L. Shannon, State Analyst, salary.....	2,000 00
M. J. Smith, Chief Clerk, salary.....	1,500 00
L. H. Van Wormer, Assistant Chemist, salary.....	1,200 00
Ida M. Harris, Clerk, salary.....	1,000 00
Gertrude Valliere, Clerk, salary.....	940 00
Nan Childs, Clerk, salary.....	550 00
Frank J. McGrath, Clerk, salary.....	225 00
Gladys Dame, Clerk, salary.....	940 00
E. H. Shuler, Clerk, salary.....	180 00
Pauline Phillips, Clerk, salary.....	940 00
W. C. Geagley, Clerk, salary.....	954 08
Roberta Purdy, Clerk, salary.....	178 79
Iva M. Shuler, Clerk, salary.....	85 25
Geo. N. Whipple, Regular Inspector, salary.....	500 00
John T. Rowe, Regular Inspector, salary.....	1,000 00
Wm. T. Hulscher, Regular Inspector, salary.....	1,000 00
C. V. Jones, Regular Inspector, salary.....	1,000 00
Burr B. Lincoln, Regular Inspector, salary.....	500 00
James E. Helber, Regular Inspector, salary.....	1,000 00
Russell E. Woodruff, Regular Inspector, salary.....	336 10
Wm. J. Mickel, Regular Inspector, salary.....	1,000 00
Douglas Nichols, Regular Inspector, salary.....	705 57
Henry F. Collins, Regular Inspector, salary.....	336 10
D. J. Farrell, Special Inspector, salary.....	939 00
Russell E. Woodruff, Special Inspector, salary.....	637 90
Henry F. Collins, Special Inspector, salary.....	637 90
Chas. R. Webb, Special Inspector, salary.....	939 00
Andrew H. Raike, Special Inspector, salary.....	939 00
H. D. Wendt, Special Inspector, salary.....	939 00
Henry F. Brownell, Special Inspector, salary.....	900 00
John P. Fetz, Special Inspector, salary.....	384 00
Postage	1,856 52
Chemicals, laboratory supplies, etc.....	1,226 50
General expenses (see statement following).....	13,698 61
By balance.....	9,971 23

\$53,889 55

STATE OF MICHIGAN.

GENERAL EXPENSES INCLUDE.

James W. Helme, expenses.....	\$534 66
F. L. Shannon, expenses.....	278 27
L. H. Van Wormer, expenses.....	62 42
George N. Whipple, expenses.....	18 35
John T. Rowe, expenses.....	883 55
Wm. T. Hulscher, expenses.....	730 49
D. J. Farrell, expenses.....	834 01
C. V. Jones, expenses.....	981 43
Frank J. McGrath, expenses.....	35 68
E. H. Shuler, expenses.....	5 74
Burr B. Lincoln, expenses.....	790 72
James E. Helber, expenses.....	793 05
Russell E. Woodruff, expenses.....	703 76
Wm. J. Mickel, expenses.....	836 38
Douglas A. Nichols, expenses.....	490 34
Henry F. Collins, expenses.....	277 42
Chas. R. Webb, expenses.....	960 27
Andrew H. Ralke, expenses.....	273 96
H. D. Wendt, expenses.....	964 62
W. C. Geagley, expenses.....	105 81
Henry F. Brownell, expenses.....	206 56
John P. Fetz, expenses.....	428 76
Express	279 30
Messages	273 95
Weights and measures, etc.....	1,949 02
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	\$13,698 61

DRUG INSPECTION.

From July 1, 1913, to June 30, 1914.

Funds available July 1, 1913.....	\$6,000 00
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DISBURSEMENTS.

A. R. Todd, Drug Analyst, salary.....	\$1,391 60
M. A. Jones, Inspector, salary.....	1,000 00
Chas. A. Bugbee, Inspector, salary.....	1,000 00
Nan Childs, Clerk, salary.....	516 50
A. R. Todd, expenses.....	234 92
M. A. Jones, expenses.....	758 60
Chas. A. Bugbee, expenses.....	1,018 36
General Expenses	26 88
By Balance.....	53 14
	<hr/>
	\$6,000 00

SUGAR BEET INSPECTION.

Roland Moser, salary and expenses.....	\$497 35
Elmer O. Ellsworth, salary and expenses.....	562 59
General Expenses.....	34 98
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	\$1,094 92

CREAMERIES AND CHEESE FACTORIES.

REGISTERED CREAMERIES, CHEESE FACTORIES, SKIMMING STATIONS, RECEIVING STATIONS, CONDENSED MILK FACTORIES, AND MILK DEPOTS.

FOR THE REGISTRATION YEAR BEGINNING APRIL 1, 1914.

ALCONA COUNTY.

Name.	Owner or Manager.	Postoffice.
Mikado Cream Station, Lott Weighing Station, Spruce Valley Creamery, Glennie Milk Depot, Alcona County Creamery, Mikado Cream Station,	Spencer & Howes, Tawas Butter Co., Spruce Valley Creamery Co., J. Solomon, Mrs. H. S. Johnson, Jos. J. Kahn,	Detroit. Tawas City. Spruce. Glennie. Harrisville. Mikado.

ALGER COUNTY.

Winters Cheese Factory,	Edward Fehrmann,	Winters.
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ALLEGAN COUNTY.

Trowbridge Twp. Skimming Station, Salem Creamery, Allegan Creamery, Kellogg Creamery, Overisel Creamery, Oakland Creamery Co., Springdale Cheese Factory, Bentheim Creamery, Moline Creamery, Pearl Creamery, Hamilton Skimming Station, East Saugatuck Creamery, Fillmore Center Creamery, Jay D. Meyers Milk Depot, Fullman Cream Station, Moline Cream Station, Fullman Cream Station, Chicora Cream Station, Fullman Cream Station, Salem Cheese Factory, Wolverine Cond. Milk Fac. (Wayland), Bradley Cream Station, Otsego Creamery,	Gobleville Creamery Co., Overton Creamery Co., Overton Creamery Co., Kellogg Creamery Co., Overisel Creamery Co., Jacob Vredeveld, M. W. Hicks, Bentheim Creamery Co., Moline Cooperative Creamery Co., Pearl Cooperative Creamery Co., Phoenix Cheese Co., East Saugatuck Creamery Co., Fillmore Center Creamery Co., Jay D. Meyers, Boyland Creamery Co., Sanitary Milk Co., Sanitary Milk Co., Holland Crystal Creamery, Holland Crystal Creamery, W. H. Earles, W. H. Earles, Mgr., Rudell Creamery, Otsego Creamery Co.,	Gobleville. Allegan. Allegan. Allegan. Allegan. Hamilton, R. 1. Hopkins. Hamilton, R. 3. Moline. Pearl. Zeeland. East Saugatuck. Holland, R. 5. Saugatuck. Grand Rapids. Grand Rapids. Grand Rapids. Holland. Holland. Lansing. Grand Rapids. Otsego.
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ANTRIM COUNTY.

Kewadin Creamery, Mancelona Cream Station,	Traverse City Elgin Creamery, Swift & Co.,	Traverse City. Alma.
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ARENAC COUNTY.

Sterling Creamery, Arenac Creamery, Turner Cream Station, Worth Cream Station, Frank Warren Milk Depot,	D. M. Scott, D. Henry & Co., Vasold Bros. & Co., Vasold Bros. & Co., Frank Warren,	Sterling. Arenac. Bay City. Bay City. Au Gres.
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BARAGA COUNTY.

Wm. H. Oakley Milk Depot, Farmers Creamery,	Wm. H. Oakley, Farmers Creamery Co.,	Covington. Pelki.
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STATE OF MICHIGAN

BARRY COUNTY.

Name.	Owner or Manager.	Postoffice.
Middleville Creamery,	Middleville Coop. Creamery Co.,	Middleville.
Shultz Creamery,	Shultz Coop. Creamery Co.,	Shultz.
Hickory Corners Creamery,	Jacob Veenstra,	Hickory Corners.
Nashville Creamery,	J. D. Allen, Mgr.,	Nashville.
Freeport Creamery,	Farmers Coop. Creamery Co.,	Freeport.
Hastings Cream Station,	Swift & Co.,	Alma.
Nashville Cream Station,	A. M. Smith & Co.,	Eaton Rapids.
Woodland Cream Station,	Spencer & Howes,	Detroit.
Hastings Creamery,	Crystal Creamery Co.,	Hastings.
Woodbury Cream Station,	A. I. Laughlin,	Woodbury.

BAY COUNTY.

Fraser Cheese Factory,	Fraser Cheese Company,	Pinconning.
Beaver Twp. Cheese Factory,	H. M. Schmidt Co.,	Saginaw.
Garfield Twp. Cheese Factory,	H. M. Schmidt Co.,	Saginaw.
Bay City Creamery,	Vasold Bros. & Co.,	Bay City.
Linwood Cream Station,	Vasold Bros. & Co.,	Bay City.
Mt. Forest Cream Station,	Vasold Bros. & Co.,	Bay City.
Bentley Cream Station,	Vasold Bros. & Co.,	Bay City.
State Road Cream Station,	Vasold Bros. & Co.,	Bay City.
Frankenlust Cheese Factory,	John Berger, Sr.,	Bay City, R. 5.
Frankenlust Creamery,	Martin Schwab,	Bay City, R. 5.
J. B. Stevens Milk Depot,	J. B. Stevens,	Bay City.
J. B. Stevens Skimming Station,	J. B. Stevens,	Bay City.
J. J. McGinty Milk Depot,	J. J. McGinty,	Bay City.
Monitor Cheese Factory,	LeRoy Reynolds,	Bay City, Sta. 9.
Pinconning Creamery,	Urban Brothers,	Pinconning.
Fraser Cream Station,	Geo. E. Tanner,	Pinconning.
Bentley Cream Station,	Gladwin Creamery Co.,	Gladwin.
Pinconning Cream Station,	Spencer & Howes,	Detroit.
Bentley Cream Station,	Michigan Creamery Co.,	Saginaw.
Auburn Cheese Factory,	John Nuffer,	Auburn.
Fisherville Skimming Station,	Conrad C. Mrozinski,	Auburn, R. 1.
Freeland Creamery & Cheese Factory,	Henry Sturm,	Freeland, R. 3.

BENZIE COUNTY.

C. L. Foster Weighing Station,	C. L. Foster,	Lake Ann.
Crystal Springs Creamery,	C. A. Moore,	Beulah.
Lake Ann Cream Station,	Sanitary Milk Co.,	Grand Rapids.

BERRIEN COUNTY.

St. Joseph Valley Creamery,	St. Joseph Valley Creamery Co.,	Buchanan.
Watervliet Creamery,	Watervliet Creamery Co.,	Watervliet.
Niles Creamery,	Niles Creamery Co.,	Niles.
Pipestone Jersey Creamery,	Geo. F. Yetter,	Eau Claire, R. 2.
Coloma Creamery,	Coloma Creamery Assn.,	Coloma.
Dayton Creamery,	Dayton Creamery Co.,	Dayton.
Three Oaks Creamery,	John Jacobson,	Chicago, Ill.
Gallen Condensed Milk Factory,	John Jacobson,	Chicago, Ill.
Benton Harbor Milk Depot,	Twin City Creamery Co.,	Benton Harbor.
Thorburn Bros. Milk Depot,	Thorburn Bros.,	Benton Harbor.
Hinchman Creamery,	A. C. Miller,	Berrien Springs.
Glendora Creamery,	Bishop Creamery Co.,	Buchanan.
Baroda Cream Station,	Fox River Butter Co.,	Chicago, Ill.
Barlow Bros. Milk Depot,	Barlow Bros., 219 Main St.,	St. Joseph.

BRANCH COUNTY.

Quincy Creamery,	Emil Anderson,	Quincy.
Union City Cream Station,	Jackson Farm Produce Co.,	Jackson.
Sherwood Cream Station,	Jackson Farm Produce Co.,	Jackson.
Bronson Cream Station,	Jackson Farm Produce Co.,	Jackson.
L. A. Downer Cheese Factory,	L. A. Downer,	Quincy.
Coldwater Creamery,	Mrs. L. C. Waite,	Union City, R. 5.
Batavia Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Quincy Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Sherwood Cream Station,	Spencer & Howes,	Detroit.
Bronson Milk Depot,	South Bend Creamery Co.,	South Bend, Ind.
Union City Creamery,	F. B. Dent,	Union City.

CALHOUN COUNTY.

Battle Creek Sanitarium Cry.,	M. W. Wentworth, Mgr.,	Battle Creek.
Raymond & Rice Milk Depot,	Raymond & Rice,	Battle Creek.
F. E. Mellin Milk Depot,	F. E. Mellin,	Battle Creek.
Tekonsha Cream Station,	Jackson Farm Produce Co.,	Jackson.
Homer Cream Station,	Jackson Farm Produce Co.,	Jackson.
Athens Cream Station,	Jackson Farm Produce Co.,	Jackson.
Marengo Cream Station,	Jackson Farm Produce Co.,	Jackson.

CALHOUN COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
Marshall Cream Station, Albion Creamery, Homer Cream Station, Marshall Creamery, Milk Producers Co., Tekonsha Creamery,	Jackson Farm Produce Co., Maple City Dairy Co., Towers Wayne County Cry. Co., Marshall Creamery Co., F. W. Sullivan, H. E. Taylor,	Jackson. Albion. Detroit. Marshall. Battle Creek. Tekonsha.

CASS COUNTY.

Jones Creamery, Cassopolis Creamery, Spring Valley Creamery, Dowagiac Creamery and Butter Co., Vandalia Creamery,	Jones Creamery Co., Cassopolis Creamery Co., Geo. P. Sunday, J. S. Green, Mgr., Vandalia Creamery Co.,	Jones. Cassopolis. Marcellus. Dowagiac. Vandalia.
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CHARLEVOIX COUNTY.

Charlevoix Creamery, East Jordan Creamery, Charlevoix Cream Station,	Fred Block, Prop., Wm. McCool & Milton Mather, Jos. R. Cooper, Prop.,	Charlevoix. East Jordan. Charlevoix.
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CHEBOYGAN COUNTY.

Wolverine Creamery, Cheboygan Creamery,	H. Kanable, Mgr., Cheboygan Creamery Co.,	Wolverine. Cheboygan.
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CHIPPEWA COUNTY.

Rudyard Creamery, Brimley Milk Depot, W. H. Stribling Milk Depot, Brimley Cheese Factory, Rosedale Creamery,	Rudyard Dairying Assn., Thompson & Washburn, W. H. Stribling, Thompson & Washburn, James Thompson,	Rudyard. Brimley. Sault Ste. Marie. Brimley. Brimley.
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CLARE COUNTY.

Clare Cream Station, Clare Cream Station, Harrison Cream Station, Clare Cream Station, Clare Cream Station, Clare Cream Station, Farwell Cream Station, Clare Cream Station, R. F. D., Clare Cream Station, R. F. D., Clare Cream Station, R. F. D., Clare Cream Station, Temple Cream Station, Pennocks Cream Station,	Michigan Produce Co., Swift & Co., Swift & Co., F. Vance, Port Huron Creamery Co., Michigan Creamery Co., Michigan Produce Co., Mich. Prod. Co., M. J. Hutchins, Mgr., Mich. Prod. Co., P. Dunley, Mgr., Mich. Produce Co., June Rowe, Mgr., J. L. Oliver, Swift & Co., Durand Creamery Co.,	Clare. Alma. Alma. Clare. Port Huron. Saginaw. Clare. Clare. Clare. Clare. Clare. Alma. Durand.
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CLINTON COUNTY.

Michigan Dairy Co., Creamery, Ovid Cream Station, St. Johns Cream Station, Maple Rapids Cheese Factory, Bath Cream Station, Elsie Cream Station, Maple Rapids Cream Station, Shepardsville Cream Station, St. Johns Cream Station, St. Johns Cream Station, Westphalia Creamery, Ovid Cream Station, Eureka Cheese Factory, Fowler Creamery, Eagle Cream Station, Ovid Cheese Factory, Elsie Powdered Milk Factory, Eagle Cream Station, St. Johns Creamery,	E. F. Day & R. Evans, Durand Creamery Co., Durand Creamery Co., C. E. Relst, Swift & Co., Swift & Co., Swift & Co., Swift & Co., Swift & Co., Medina County Creamery Co., Alfred A. Bauer, A. M. Smith & Co., John Coverdale, Peter Edinger, Spencer & Howes, Ekenberg Co., Ekenberg Co., L. Barber & Co., Bishop Clinton Creamery Co.,	St. Johns. Durand. Durand. Maple Rapids. Alma. Alma. Alma. Alma. Alma. Detroit. Westphalia. Eaton Rapids. Eureka. Fowler. Detroit. Ovid. Elsie. Edmore. St. Johns.
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DELTA COUNTY.

Escanaba Creamery, A. J. Valentine Milk Depot, Bark River Creamery, Garden Creamery,	Martin Henrikson, A. J. Valentine, Phil Labre, Garden Creamery Co.,	Escanaba. Escanaba. Bark River. Garden.
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DICKINSON COUNTY.

Asselin Farm Creamery, Norway Creamery, Best Bros. Creamery,	Asselin Estate, F. Copeland, Mgr., Best Brothers,	Norway. Norway. Iron Mountain.
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STATE OF MICHIGAN.

EATON COUNTY.

Name.	Owner or Manager.	Postoffice.
Bellevue Cream Station.	Ray E. Stevens.	Bellevue.
Eaton Rapids Creamery.	A. M. Smith & Co.,	Eaton Rapids.
Charlotte Cream Station.	A. M. Smith & Co.,	Eaton Rapids.
Charlotte Cream Station.	Towards Wayne County Cry. Co.,	Detroit.
Grand Ledge Cream Station.	Towards Wayne County Cry. Co.,	Detroit.
Olivet Cream Station.	Towards Wayne County Cry. Co.,	Detroit.
Woodbury Cream Station.	Towards Wayne County Cry. Co.,	Detroit.
Grand Ledge Cream Station.	Spencer & Howes,	Detroit.
Mulliken Cream Station.	Spencer & Howes,	Detroit.
Eaton Rapids Cream Station.	A. M. Smith & Co.,	Eaton Rapids.
Grand Ledge Cream Station.	Boyland Creamery Co.,	Grand Rapids.
Sunfield Cream Station.	Boyland Creamery Co.,	Grand Rapids.
Sunfield Cream Station.	Spencer & Howes,	Detroit.
Eaton Rapids Cream Station.	Towards Wayne County Cry. Co.,	Detroit.
Sunfield Cream Station.	Sanitary Milk Co.,	Grand Rapids.
Olivet Cream Station.	Durand Creamery Co.,	Durand.

GENESEE COUNTY.

Clio Condensed Milk Factory.	Clio Condensed Milk Co.,	Clio.
Argentine Cream Station.	Durand Creamery Co.,	Durand.
Gaines Cream Station.	Durand Creamery Co.,	Durand.
Flushing Cream Station.	Flushing Creamery Co.,	Flushing.
Fenton Creamery.	Crouse & Parshall Dairy Pro. Co.,	Fenton.
Clover Leaf Butter Co.,	E. D. Bump.	Ottsville, Box 46.
Flint Creamery.	Freeman Dairy Co.,	Flint.
Mt. Morris Cream Station.	Freeman Dairy Co.,	Flint.
Otisville Cream Station.	Freeman Dairy Co.,	Flint.
Davison Creamery.	Shaw & Cooney Creamery Co.,	Davison.
Geneese Cream Station.	Shaw & Cooney Cry. Co.,	Davison.
Duffield Cream Station.	Towards Wayne County Cry. Co.,	Detroit.
Montrose Home Creamery.	W. G. Hermann,	Montrose.
Davison Cream Station.	Port Huron Creamery Co.,	Port Huron.
Brueya Cheese Co.,	M. C. Dowd,	Montrose, R. 3.
Clover Leaf Dairy Co.,	Lee Parker, Mgr.,	Swartz Creek.
Gaines Cream Station.	Spencer & Howes,	Detroit.
Clio Cream Station.	Flushing Butter Co.,	Flushing.
Swartz Creek Cream Station.	Shaw & Cooney,	Davison.
Linden Cream Station.	Durand Creamery Co.,	Durand.
Linden Cream Station.	Crouse & Parshall,	Fenton.

GLADWIN COUNTY.

Gladwin Cream Station.	Vasold Bros. & Co.,	Bay City.
Gladwin Cream Station.	Towards Wayne County Cry. Co.,	Detroit.
Gladwin Dairy & Produce Co.,	Wellington Wagar, Mgr.,	Gladwin.
Gladwin Butter Co.,	J. M. Smith, Mgr.,	Gladwin.
Rhodes Cream Station.	Gladwin Butter Co.,	Gladwin.
Wheatley Cream Station.	Gladwin Butter Co.,	Gladwin.
Oberlin Cream Station.	Gladwin Butter Co.,	Gladwin.
Hockaday Cream Station.	Gladwin Butter Co.,	Gladwin.
McClure Cream Station.	Gladwin Butter Co.,	Gladwin.
Skeels Cream Station.	Gladwin Butter Co.,	Gladwin.
Beaverton Creamery.	F. E. Shoup,	Beaverton.

GOGEBIC COUNTY.

A. C. Buss Creamery.	A. C. Buss,	Ironwood.
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GRAND TRAVERSE COUNTY.

Fife Lake Cream Station.	Swift & Co.,	Alma.
Kingsley Cream Station.	Swift & Co.,	Alma.
A. W. Wiedoeft Milk Depot.	A. W. Wiedoeft,	Traverse City.
Traverse City Creamery.	Wm. A. McCool,	Traverse City.
Kingsley Milk Depot.	James McGuire,	Kingsley.
Kingsley Milk Depot.	Moore's Cash Store Co.,	Kingsley.
Summit City Cream Station.	Sanitary Milk Co.,	Grand Rapids.

GRATIOT COUNTY.

Bannister Cream Station.	Durand Creamery Co.,	Durand.
Brice Cream Station.	Durand Creamery Co.,	Durand.
Middleton Cream Station.	Durand Creamery Co.,	Durand.
North Star Cream Station.	Durand Creamery Co.,	Durand.
Middleton Cheese Factory.	Geo. S. Hart, Co.,	New York.
Perrinton Cheese Factory.	Geo. S. Hart, Co.,	New York.
Ola Cheese Factory.	Peter J. Wolf & Son,	Pompeii.
Alma Creamery.	Swift & Co.,	Alma.
Bannister Cream Station.	Swift & Co.,	Alma.
Breckenridge Cream Station.	Swift & Co.,	Alma.
Edgewood Cream Station.	Swift & Co.,	Alma.

GRATIOT COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
Ithaca Cream Station.	Swift & Co..	Alma.
Newark Cream Station.	Swift & Co..	Alma.
Middleton Cream Station.	Swift & Co..	Alma.
Rathbone Cream Station.	Swift & Co..	Alma.
Riverdale Cream Station.	Swift & Co..	Alma.
St. Louis Cream Station.	Swift & Co..	Alma.
Wheeler Cream Station.	Swift & Co..	Alma.
Breckenridge Cream Station.	Breckenridge Creamery Co..	Breckenridge.
St. Louis Cream Station.	Breckenridge Creamery Co..	Breckenridge.
Wheeler Cream Station.	Breckenridge Creamery Co..	Breckenridge.
Wheeler Cheese Factory.	John Miner.	St. Louis.
Elwell Cheese Factory.	Miner & Collister.	Elwell.
Middleton Cream Station.	L. Barber & Co..	Edmore.
St. Louis Cream Station.	L. Barber & Co..	Edmore.
Elm Hall Corners Cheese Factory.	W. H. Earls.	Lansing.
Sickles Cheese Factory.	W. H. Earls.	Lansing.
Cream O'Cheese Co..	C. E. Chittenden.	Ashley.

HILLSDALE COUNTY.

Montgomery Cheese Factory.	L. R. Sigafosse, Mgr.	Montgomery.
Wm. H. Smith & Son Creamery.	Wm. H. Smith & Son.	Camden.
Milnes Corners Cheese Factory.	G. B. Elliott.	Jonesville.
East Moscow Cheese Factory.	G. B. Elliott.	Jonesville.
Shady Side Cheese Factory.	E. W. Lewis.	Osseo.
Waldron Cheese Factory.	Waldron Cheese Co..	Waldron.
Ransom Cheese Factory.	Waldron Cheese Co..	Waldron.
Jerome Cream Station.	Towards Wayne County Cry. Co..	Detroit.
Hoxie Cheese Factory.	J. H. Livermore.	North Adams.
Wheatland Cheese Factory.	Central Supply Co..	Addison.
Somerset Cheese Factory.	Central Supply Co..	Addison.
Adams Twp. Cheese Factory.	M. M. Hinckley.	Grand Rapids.
Jefferson Cheese Factory.	M. M. Hinckley.	Grand Rapids.
Wright Twp. Cheese Factory.	M. M. Hinckley.	Grand Rapids.
Hillsdale Elgin Creamery.	Hillsdale Elgin Creamery Co..	Hillsdale.

HOUGHTON COUNTY.

Hancock Creamery.	Bridgeman-Russell Co..	Hancock.
Barsotti Bros. Milk Depot.	Barsotti Bros.	Calumet.
Portage Lake Creamery.	Portage Lake Creamery Co..	Oskar.
Alston Cream Station.	Bridgeman-Russell Co..	Hancock.
Chassell Creamery.	Chassell Creamery Co..	Chassell.
Bridgeman-Russell Cream Station	(Kenton) Wm. Shingler, Mgr..	Hancock.

HURON COUNTY.

Huron County Creamery.	Huron County Creamery Co..	Pigeon.
Elkton Butter and Cheese Factory	Rice Bros.	Elkton.
Ubyly Condensed Milk Factory.	Page Milk Co..	Ubyly.
Ruth Creamery.	Ruth Creamery Co..	Ruth.
Paris Township Cream Station.	Ruth Creamery Co..	Ruth.
Parisville Cream Station.	Ruth Creamery Co., Ed. Zinger, Mgr..	Ruth.
Parisville Cream Station.	Ruth Cry. Co., Lena Maurer, Mgr..	Ruth.
Bad Axe Creamery.	Freeman Dairy Co..	Flint.
Palms Cream Station.	Freeman Dairy Co..	Flint.
Yale Cream Station.	Freeman Dairy Co..	Flint.
McGregor Cream Station.	Freeman Dairy Co..	Flint.
Harbor Beach Cream Station.	Medina County Creamery Co..	Detroit.
Elkton Cream Station.	Medina County Creamery Co..	Detroit.
Port Hope Cream Station.	Medina County Creamery Co..	Detroit.
Port Huron Creamery.	Port Huron Creamery Co..	Port Huron.
Kinde Cream Station.	Port Huron Creamery Co..	Port Huron.
Caseville Cream Station.	Port Huron Creamery Co..	Port Huron.
Owendale Cream Station.	Port Huron Creamery Co..	Port Huron.
Redman Cream Station.	Port Huron Creamery Co..	Port Huron.
Port Hope Cream Station.	Port Huron Creamery Co..	Port Huron.
Harbor Beach Cream Station.	Port Huron Creamery Co..	Port Huron.
Rush Cream Station.	Port Huron Creamery Co..	Port Huron.
Helena Cream Station.	Port Huron Creamery Co..	Port Huron.
Ubyly Cream Station.	Port Huron Creamery Co..	Port Huron.
Bad Axe Cream Station.	Port Huron Creamery Co..	Port Huron.
Pinnebog Cream Station.	Port Huron Creamery Co..	Port Huron.
Fillon Cream Station.	Port Huron Creamery Co..	Port Huron.
Harbor Beach Cream Station.	Michigan Creamery Co..	Saginaw.
Bad Axe Cream Station.	Michigan Creamery Co..	Saginaw.
Port Austin Cream Station.	Michigan Creamery Co..	Saginaw.
Port Hope Cream Station.	Michigan Creamery Co..	Saginaw.
Grindstone City Cream Station.	Michigan Creamery Co..	Saginaw.
Kinde Cream Station.	Michigan Creamery Co..	Saginaw.
Pigeon Creamery.	F. M. Warner Cheese Co..	Farmington.
Kilmanagh Cheese Factory.	F. M. Warner Cheese Co..	Farmington.
Brookfield Cheese Factory.	Smith & Warner.	Owendale.

STATE OF MICHIGAN.

HURON COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
Elkton Cream Station,	Port Huron Creamery Co.,	Port Huron.
Pigeon Cream Station,	Port Huron Creamery Co.,	Port Huron.
Linkville Cream Station,	Fred M. Warner Cheese Mfg. Co.,	Farmington.
Grassmere Cream Station,	Greenleaf Creamery Co.,	Cass City, R. 1:
Filion Cream Station,	Michigan Creamery Co.,	Saginaw.

INGHAM COUNTY.

Lansing Condensery,	Bordens Condensed Milk Co.,	New York.
Webberville Condensery,	Chapin Sacks Mfg. Co.,	Washington, D. C.
Onondaga Cream Station,	Jackson Farm Produce Co.,	Jackson.
Fitchburg Cream Station,	Jackson Farm Produce Co.,	Jackson.
Webberville Cream Station,	Swift & Co.,	Alma.
Lansing Milk Depot,	W. H. Winans & Sons,	Lansing.
Mason Cream Station,	A. M. Smith & Co.,	Eaton Rapids.
Williamston Milk Depot,	Detroit Creamery Co.,	Detroit.
Mason Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Morrison Bros. Milk Depot,	Morrison Bros.,	Lansing.
Leslie Butter Co.,	E. J. Kneibehler, Mgr.,	Leslie.
Lansing Creamery,	Island City Creamery Co.,	Lansing.
Eaton Rapids Cream Station,	Island City Creamery Co.,	Lansing.

IONIA COUNTY.

Lake Odessa Condensed Milk Factory,	Lake Odessa Milk Co.,	Lake Odessa.
Clarksville Creamery,	Clarksville Creamery Co.,	Clarksville.
T. P. Gates Milk Depot,	T. P. Gates,	Ionla.
Orleans Creamery,	Orleans Creamery Assn.,	Orleans.
Hubbardston Cream Station,	Durand Creamery Co.,	Durand.
Muir Cream Station,	Durand Creamery Co.,	Durand.
Collins Cream Station,	Swift & Co.,	Alma.
Hubbardston Cream Station,	Swift & Co.,	Alma.
Lake Odessa Cream Station,	Swift & Co.,	Alma.
Lyons Cream Station,	Swift & Co.,	Alma.
Muir Cream Station,	Swift & Co.,	Alma.
Portland Cream Station,	Swift & Co.,	Alma.
Lake Odessa Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Portland Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Farmers Cooperative Creamery,	Farmers Cooperative Creamery Co.,	Saranac.
Lake Odessa Cream Station,	Spencer & Howes,	Detroit.
Lyons Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Muir Cream Station,	Boylard Creamery Co.,	Grand Rapids.
Portland Cream Station,	L. Barber & Co.,	Edmore.
Ionla Creamery,	Austin & Darling,	Ionla.
Lyons Cream Station,	L. Barber & Co.,	Edmore.

IOSCO COUNTY.

Emery Junction Cream Depot,	W. H. Pringle, Mgr.,	Emery Junction.
Hale Cheese Factory,	John H. Carey,	Hale.
Whittemore Cream Station,	Vasold Bros. & Co.,	Bay City.
Iosco Creamery Co.,	Webb & Jensen,	Whittemore.
Tawas Butter Co.,	Geo. Fahselt, Prop.,	Tawas City.
Hemlock Cheese Factory,	A. J. Locke, Prop.,	Tawas City, R. 2.

IRON COUNTY.

Iron River Creamery,	Iron River Creamery Co.,	Iron River.
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ISABELLA COUNTY.

Shepherd Creamery,	Mrs. C. L. Hokemeyer,	Shepherd.
Blanchard Creamery,	H. J. Sasa,	Blanchard.
Rosebush Cream Station,	Durand Creamery Co.,	Durand.
Beal City Cream Station,	Durand Creamery Co.,	Durand.
Loomis Cream Station,	Durand Creamery Co.,	Durand.
Wise Cream Station,	Durand Creamery Co.,	Durand.
Delwin Cream Station,	Vasold Bros. & Co.,	Bay City.
Loomis Cream Station,	Vasold Bros. & Co.,	Bay City.
Mt. Pleasant Cond. Factory,	Bordens Cond. Milk Co.,	New York.
Coe Cream Station,	Swift & Co.,	Alma.
Drew Cream Station,	Swift & Co.,	Alma.
Rosebush Cream Station,	Swift & Co.,	Alma.
Shepherd Cream Station,	Swift & Co.,	Alma.
Weidman Cream Station,	Swift & Co.,	Alma.
Winn Cream Station,	Swift & Co.,	Alma.
C. E. Yondan Milk Depot,	C. E. Yondan,	Mt. Pleasant, R. 4.
J. F. Faulkner Milk Depot,	J. F. Faulkner,	Mt. Pleasant.
F. K. Palmer Milk Depot,	F. K. Palmer,	Mt. Pleasant, R. 4.
Brinton Cream Station,	Michigan Creamery Co.,	Saginaw.
Shepherd Cream Station,	Ann Arbor Creamery Co.,	Ann Arbor.
Blanchard Cream Station,	L. Barber & Co.,	Edmore.
Weidman Cream Station,	L. Barber & Co.,	Edmore.
Winn Cream Station,	L. Barber & Co.,	Edmore.
Brinton Cream Station,	Swift & Co.,	Alma.

JACKSON COUNTY.

Name.	Owner or Manager.	Postoffice.
Lakeside Elgin Butter Co.,	J. M. Rohrer, Mgr.,	Grass Lake.
Parma Creamery.	Parma Butter Co.,	Parma.
Devereaux Creamery.	Elmer Bros.,	Devereaux.
Brooklyn Creamery Co.,	A. W. Brooks, Mgr.,	Brooklyn.
Crystal Creamery Co.,	E. S. Wilcox, Mgr.,	Concord.
Jackson Farm Produce Co. Creamery.,	Jackson Farm Produce Co.,	Jackson.
Horton Cream Station,	Jackson Farm Produce Co.,	Jackson.
Tompkins Cream Station,	Jackson Farm Produce Co.,	Jackson.
Napoleon Cream Station,	Jackson Farm Produce Co.,	Jackson.
Spring Arbor Cream Station,	Jackson Farm Produce Co.,	Jackson.
Rives Junction Cream Station,	Jackson Farm Produce Co.,	Jackson.
Jackson Condensed Milk Factory,	Bordens Condensed Milk Co.,	New York.
Brooklyn Cream Station,	Medina County Cry. Co.,	Detroit.
Springport Cream Station,	A. M. Smith & Co.,	Eaton Rapids.
Springport Cream Station,	Island City Creamery Co.,	Lansing.
Jackson Milk Depot,	Colvin Dairy Co.,	Jackson.
Hanover Creamery,	J. B. Rowe,	Hanover.

KALAMAZOO COUNTY.

Wm. C. Gibson Milk Depot,	Wm. C. Gibson,	Scotts.
Island Creamery Co.,	W. G. McCreary,	Schoolcraft.
Kalamazoo Creamery.	Kalamazoo Creamery Co.,	Kalamazoo.
Michigan Butter Co.,	H. W. Wicks, Mgr.,	Kalamazoo.
Vicksburg Creamery.	Bishop Creamery Co.,	Buchanan.
Vicksburg Milk Depot,	Dairymen Milk Co.,	Kalamazoo.
Kalamazoo Creamery.	Dairymen Milk Co.,	Kalamazoo.
Riverside Creamery (Galesburg),	Stafford & Whitney,	Galesburg.

KALKASKA COUNTY.

South Boardman Cream Station,	Cadillac Ice Cream Co.,	Cadillac.
Kalkaska Cream Station,	Swift & Co.,	Alma.
Rowley Cream Station,	Swift & Co.,	Alma.
Sigma Cream Station,	Swift & Co.,	Alma.
South Boardman Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Kalkaska Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Darragh Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Sigma Cream Station,	Sanitary Milk Co.,	Grand Rapids.

KENT COUNTY.

Blue Valley Creamery,	Blue Valley Creamery Co.,	Grand Rapids.
Caledonia Cooperative Creamery,	Caledonia Coop. Copart. Cry. Assn.,	Caledonia.
Byron Center Creamery Co.,	L. J. Osinga,	Byron Center.
Alto Cooperative Creamery Co.,	G. E. Watts, Mgr.,	Alto.
Aaron Schiedel Butter Factory,	Aaron Schiedel,	Sparta.
Lowell Cream Station,	Durand Creamery Co.,	Durand.
Lowell Cream Station,	Swift & Co.,	Alma.
Sand Lake Creamery,	Mossner & Bishop,	Sand Lake.
Moseley Creamery,	Moseley Cooperative Cry. Assn.,	Lowell, R. 6.
Grand Rapids Milk Depot,	Grand Rapids Home Dairy Co.,	Grand Rapids.
Grand Rapids Creamery Co.,	Henry Zoet,	Grand Rapids.
A. Vonk & Son Milk Depot,	A. Vonk & Son,	Grand Rapids.
Grand Rapids Cheese Factory,	Triemstra Co.,	Grand Rapids.
Sand Lake Cream Station,	Sand Lake Creamery Co.,	Sand Lake.
Grand Rapids Creamery,	Boyland Creamery Co.,	Grand Rapids.
Sparta Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Grand Rapids Milk Depot,	Woodlawn Dairy Co.,	Grand Rapids.
Kent City Cheese Factory,	Peterson & Carlson,	Kent City.
Sparta Creamery,	Geo. S. King,	Sparta.
Cedar Springs Creamery,	W. H. Fowle,	Grand Rapids.
Grand Rapids Creamery,	Sanitary Milk Co.,	Grand Rapids.
Rockford Cream Station,	Durand Creamery Co.,	Durand.
Cedar Springs Cooperative Cry. Co., Ltd.	F. S. Andrews, Mgr.,	Cedar Springs.
Rudell Creamery,	Rudell Creamery Co.,	Grand Rapids.

LAKE COUNTY.

Nirvana Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Luther Cream Station,	Swift & Co.,	Alma.
Chase Cream Station,	Michigan Creamery Co.,	Saginaw.
Luther Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Edgetts Cream Station,	J. B. Ketchum,	LeRoy.
Edgetts Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Luther Cream Station,	Sanitary Milk Co.,	Grand Rapids.

LAPEER COUNTY.

Lapeer County Creamery,	R. F. Frary,	Lapeer.
R. A. Butler Cream Station,	R. A. Butler,	Imlay City.
Almont Creamery,	F. A. Chevie,	Almont.

LAPEER COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
Peoples Creamery,	Thos. Stacey,	North Branch.
Lum Creamery,	Geo. McNally,	Lum.
Columbiaville Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Clifford Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Dryden Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Elba Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
North Branch Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Five Lakes Cream Station,	Port Huron Creamery Co.,	Port Huron.
Imlay City Cream Station,	Port Huron Creamery Co.,	Port Huron.
Clifford Cream Station,	Port Huron Creamery Co.,	Port Huron.
Kings Mill Cream Station,	Spencer & Howes,	Detroit.
Lum Cream Station,	Spencer & Howes,	Detroit.
North Branch Cream Station,	Spencer & Howes,	Detroit.
Burnside Cream Station,	Michigan Creamery Co.,	Saginaw.
Clifford Cheese & Butter Co.,	C. H. Willson,	Clifford.

LEELANAU COUNTY.

Northport Creamery,	Leelanau Twp. Farmers Club,	Northport.
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LENAWEE COUNTY.

Hudson Condensed Milk Factory,	Helvetia Milk Condensing Co.,	Hudson.
Adrian Condensed Milk Factory,	Van Camp Packing Co.,	Indianapolis, Ind.
Cadmus Cheese Factory,	C. H. Garnsey,	Cadmus.
H. H. Driggs Creamery,	H. H. Driggs,	Palmyra.
Cadmus Creamery,	Clover Leaf Dairy Co.,	Toledo, O.
Blissfield Creamery,	Blissfield Creamery Co.,	Blissfield.
Morenci Condensed Milk Factory,	Ohio Dairy Co.,	Toledo, O.
Seneca Condensed Milk Factory,	Ohio Dairy Co.,	Toledo, O.
Jasper Creamery,	Barnaby & Haywood,	Jasper.
Adrian Creamery,	W. A. Barnaby,	Adrian.
Ennis Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Munson Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Sand Creek Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Britton Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Cement City Cheese Factory,	L. G. Miller,	Cement City.
Onsted Cream Station,	Spencer & Howes,	Detroit.
Devils Lake Cream Station,	Spencer & Howes,	Detroit.
Addison Cheese Factory,	Central Supply Co.,	Addison.
Macon Creamery,	Macon Cheese Co.,	Tecumseh.
Onsted Cheese Factory,	L. R. Conner,	Onsted.
Rome Center Cheese Factory,	L. R. Conner,	Onsted.

LIVINGSTON COUNTY.

Howell Condensery,	Bordens Condensed Milk Co.,	New York.
Cohoctah Cream Station,	Durand Creamery Co.,	Durand.
Cohoctah Center Cream Station,	Durand Creamery Co.,	Durand.
Hamburg Cream Station,	Durand Creamery Co.,	Durand.
Howell Cream Station,	Durand Creamery Co.,	Durand.
Cohoctah Cream Station,	Flushing Butter Co.,	Flushing.
Cohoctah Cream Station,	Swift & Co.,	Alma.
Howell Cream Station,	Swift & Co.,	Alma.
Lyndon Cheese Factory, (Anderson)	Lyndon Cheese Co.,	Stockbridge.
Brighton Condensed Milk Factory,	Detroit Creamery Co.,	Detroit.
Fowlerville Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Pinckney Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Fowlerville Cream Station,	Spencer & Howes,	Detroit.
Gregory Cream Station,	Spencer & Howes,	Detroit.

MACKINAC COUNTY.

Engadine Butter Factory,	W. J. Rapin, Mgr.,	Engadine.
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MACOMB COUNTY.

Romeo Elgin Creamery,	Romeo Elgin Creamery Co.,	Romeo.
Macomb Skimming Station,	Macomb Creamery Co.,	Mt. Clemens.
Gatz Creamery Co.,	John H. Gatz,	Mt. Clemens.
Armada Creamery,	C. M. Partch,	Armada.
New Baltimore Creamery,	New Baltimore Creamery Co.,	New Baltimore.
Cady Milk Depot,	Detroit Creamery Co.,	Detroit.
Mt. Clemens Milk Depot,	Detroit Creamery Co.,	Detroit.
Utica Milk Depot,	Detroit Creamery Co.,	Detroit.
New Haven Milk Depot,	Detroit Creamery Co.,	Detroit.
Muttonville Milk Depot,	Detroit Creamery Co.,	Detroit.
Washington Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Utica Cooperative Creamery,	Utica Cooperative Cry. Assn.,	Utica.
Disco Skimming Station,	Utica Cooperative Cry. Assn.,	Utica.
Waldenburg Skimming Station,	Utica Cooperative Cry. Assn.,	Utica.
Memphis Cream Station,	Port Huron Creamery Co.,	Port Huron.

MACOMB COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
Lenox Cream Station,	Port Huron Creamery Co.,	Port Huron.
Richmond Creamery,	Wm. Zentgrebe,	Richmond.
Chesterfield Creamery,	Chesterfield Creamery Co.,	Mt. Clemens.
Waldenburg Skimming Station,	Chesterfield Creamery Co.,	Mt. Clemens.
Meade Skimming Station,	Chesterfield Creamery Co.,	Mt. Clemens.
Mt. Clemens Skimming Station,	Chesterfield Creamery Co.,	Mt. Clemens.
Lenox Cream Station,	Spencer & Howes,	Detroit.
New Haven Cream Station,	Spencer & Howes,	Detroit.

MANISTEE COUNTY.

Alfred Hansen Milk Depot,	Alfred Hansen,	Manistee.
Copemish Creamery,	Copemish Creamery Co.,	Copemish.
Kaleva Cream Station,	Swift & Co.,	Alma.
Harlan Cream Station,	Sanitary Milk Co.,	Grand Rapids.

MARQUETTE COUNTY.

Skandia Creamery,	Skandia Creamery Co.,	Skandia.
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MASON COUNTY.

Alpha Creamery (Scottville)	Axel Kehlet,	Ludington.
Free Soil Cheese Factory,	Brown & Courser,	Free Soil.
Custer Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Fountain Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Branch Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Custer Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Fountain Cream Station,	Sanitary Milk Co.,	Grand Rapids.

MECOSTA COUNTY.

Remus Creamery,	Remus Cooperative Assn.,	Remus.
Altona Cream Station,	Swift & Co.,	Alma.
Barryton Cream Station,	Swift & Co.,	Alma.
Big Rapids Cream Station,	Swift & Co.,	Alma.
Borland Cream Station,	Swift & Co.,	Alma.
Millbrook Cream Station,	Swift & Co.,	Alma.
Morley Cream Station,	Swift & Co.,	Alma.
Paris Cream Station,	Swift & Co.,	Alma.
Remus Cream Station,	Swift & Co.,	Alma.
Rodney Cream Station,	Swift & Co.,	Alma.
Stanwood Cream Station,	Swift & Co.,	Alma.
Titus Cream Station,	Swift & Co.,	Alma.
Pogy Cream Station,	Clifford Wilson,	Hersey, R. 1.
Model Cooperative Creamery,	Model Cooperative Cry. Assn.,	Big Rapids.
Stanwood Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Barryton Cream Station,	L. Barber & Co.,	Edmore.
Big Rapids Cream Station,	L. Barber & Co.,	Edmore.
Mecosta Cream Station,	L. Barber & Co.,	Edmore.
Millbrook Cream Station,	L. Barber & Co.,	Edmore.
Remus Cream Station,	L. Barber & Co.,	Edmore.
Rodney Cream Station,	L. Barber & Co.,	Edmore.
Stanwood Cream Station,	L. Barber & Co.,	Edmore.
Sylvester Cream Station,	L. Barber & Co.,	Edmore.
Mecosta Cream Station,	Swift & Co.,	Alma.
Stanwood Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Morley Cream Station,	Rudell Creamery,	Grand Rapids.
Crapo Cream Station,	Rudell Creamery,	Grand Rapids.
Paris Cream Station,	L. Barber & Co.,	Edmore.

MENOMINEE COUNTY.

Stephenson Creamery,	H. E. Jahnke,	Stephenson.
Daggett Creamery,	T. H. Pastorski,	Daggett.
Nadeau Bros. Creamery,	Nadeau Bros.,	Nadeau.
I. X. L. Creamery,	R. M. Rasmussen,	Hermansville.
Pioneer Farm & Maple Grove Cry.,	Ira Carley,	Ingalls.
Pine Hill Farm Creamery,	C. I. Cook,	Menominee.
Wilson Cheese Factory,	Adolph Trousil,	Wilson.
Belgin Town Cheese Factory,	Walle Landree,	Menominee.
Wallace Creamery,	Jno. H. Noppenberg,	Ingalls.
Carney Cheese Factory,	J. H. Hannon,	Carney.
Bark River Cheese Factory,	Chas. Elliott & Son,	Bark River.
Spalding Cheese Factory,	Frank Beatson, Prop.,	Spalding.
Gourley Cheese Factory,	Frank Vandenplas,	Carney, R. 2.

MIDLAND COUNTY.

North Bradley Cream Station,	Swift & Co.,	Alma.
Coleman Creamery,	Coleman Creamery Co.,	Coleman.
North Bradley Cream Station,	Coleman Creamery Co.,	Coleman.
Midland Cream Station,	Michigan Creamery Co.,	Saginaw.

MIDLAND COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
Coleman Cream Station,	Michigan Creamery Co.,	Saginaw.
Smith's Crossing Cream Station,	Michigan Creamery Co.,	Saginaw.
Averill Cream Station,	Michigan Creamery Co.,	Saginaw.
Midland Creamery,	Vasold Bros. & Co.,	Bay City.
Sanford Cream Station,	Vasold Bros. & Co.,	Bay City.
Pleasant Valley Cream Station,	L. Barber & Co.,	Edmore.
Larkin Cream Station,	Michigan Creamery Co.,	Saginaw.
Sanford Cream Station,	Michigan Creamery Co.,	Saginaw.

MISSAUKEE COUNTY.

Farmers Creamery,	Farmers Creamery Co.,	Lucas.
McBain Cream Station,	Durand Creamery Co.,	Durand.
Lake City Cream Station,	Swift & Co.,	Alma.
Merritt Cream Station,	Swift & Co.,	Alma.
Missaukee Cream Station,	Swift & Co.,	Alma.
Moddersville Cream Station,	Swift & Co.,	Alma.
McBain Cream Station,	Swift & Co.,	Alma.
Prosper Cream Station,	Swift & Co.,	Alma.
Lake City Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Star City Cream Station,	Boyland Creamery Co.,	Grand Rapids.
McBain Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Vogel Center Cream Station,	Michigan Creamery Co.,	Saginaw.

MONROE COUNTY.

So. Rockwood Butter & Cheese Factory,	So. Rockwood Butter & Cheese Co.,	So. Rockwood.
Axalia Condensery,	Toledo Dairy Co.,	Toledo.
Excelsior Creamery, (Ida),	W. G. Hoffman, Mgr.,	Ida.
Strasburg Skimming Station,	Excelsior Creamery Co.,	Ida.
D. A. Jenkins Cheese Factory,	D. A. Jenkins,	Monroe.
Temperance Creamery,	Clover Leaf Dairy Co.,	Toledo, Ohio.
Strasburg Cheese Factory,	Anton Geiger, Mgr.,	Ida.
Dundee Condensed Milk Factory,	Ohio Dairy Co.,	Toledo, Ohio.
Monroe Butter & Cheese Factory,	Monroe Butter & Cheese Co.,	Monroe.
La Salle Twp. Skimming Station,	Monroe Butter & Cheese Co.,	Monroe.
Frenchtown Twp. Skimming Station.,	Monroe Butter & Cheese Co.,	Monroe.
Maybee Cream Station,	Medina County Cry. Co.,	Detroit.
Rea Cream Station,	Medina County Cry. Co.,	Detroit.
Dundee Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Maybee Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Carleton Cream Station,	Spencer & Howes,	Detroit.
Scofield Cream Station,	Spencer & Howes,	Detroit.
Lulu Cheese Factory,	Wm. F. Smith,	Lulu.
Newport Creamery,	C. W. Beckham,	Toledo, Ohio.

MONTCALM COUNTY.

Six Lakes Cream Station,	G. E. Cornell,	Six Lakes.
Greenville Creamery,	Montcalm Creamery Co.,	Greenville.
Sidney Cheese Factory,	Andrews & Johnson,	Sidney.
Sheridan Creamery,	John Dolan,	Sheridan.
Carson City Cream Station,	Durand Creamery Co.,	Durand.
Crystal Cream Station,	Durand Creamery Co.,	Durand.
Butternut Cheese Factory,	J. M. Fitzpatrick,	Butternut.
Vickeryville Cheese Factory,	M. C. Johnson,	Vickeryville.
Coral Cream Station,	Swift & Co.,	Alma.
Edmore Cream Station,	Swift & Co.,	Alma.
Entrican Cream Station,	Swift & Co.,	Alma.
Fishville Cream Station,	Swift & Co.,	Alma.
Gowen Cream Station,	Swift & Co.,	Alma.
Howard City Cream Station,	Swift & Co.,	Alma.
Lakeview Cream Station,	Swift & Co.,	Alma.
Plerson Cream Station,	Swift & Co.,	Alma.
Sheridan Cream Station,	Swift & Co.,	Alma.
Sidney Cream Station,	Swift & Co.,	Alma.
Six Lakes Cream Station,	Swift & Co.,	Alma.
Stanton Cream Station,	Swift & Co.,	Alma.
Vestaburg Cream Station,	Swift & Co.,	Alma.
Carson City Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Amble Creamery,	Amble Creamery Co.,	Amble.
Sheridan Cream Station,	Spencer & Howes,	Detroit.
Carson City Cheese Factory,	F. H. Miner,	Carson City.
Fenwick Cheese Factory,	B. R. Snow,	Fenwick.
City Creamery,	S. Petersen,	Greenville.
Trufant Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Wyman Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Coral Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Vestaburg Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Fenwick Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Coral Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Plerson Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Trufant Cream Station,	Boyland Creamery Co.,	Grand Rapids.

MONTCALM COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
McBride Creamery,	C. W. Harder & C. H. Dopp,	McBride.
Edmore Cream Station,	L. Barber & Co.,	Edmore.
Entrican Cream Station,	L. Barber & Co.,	Edmore.
Howard City Cream Station,	L. Barber & Co.,	Edmore.
Lakeview Cream Station,	L. Barber & Co.,	Edmore.
Stanton Cream Station,	L. Barber & Co.,	Edmore.
Trufant Cream Station,	L. Barber & Co.,	Edmore.
Wyman Cream Station,	L. Barber & Co.,	Edmore.
Howard City Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Sheridan Cream Station,	Durand Creamery Co.,	Durand.
Lakeview Creamery,	H. A. Black,	Lakeview.
Howard City Cream Station,	Rudell Creamery,	Grand Rapids
Six Lakes Cream Station,	L. Barber & Co.,	Edmore.

MONTMORENCY COUNTY.

Hillman Creamery,	Hillman Creamery Co.,	Hillman.
A. K. Brant Cheese Factory,	A. K. Brant,	Royston.

MUSKEGON COUNTY.

Holton Creamery,	Holton Creamery Co.,	Holton.
Ravenna Creamery,	Ravenna Cooperative Cry. Co.,	Ravenna.
Dalson & Nielson Milk Depot,	Dalson & Nielson,	Muskegon.
John Baars Milk Depot,	John Baars,	Muskegon, R. 3.
Edward Rasmussen Milk Depot,	Edward Rasmussen,	Muskegon, R. 6.
Edward Beegle Milk Depot,	Edward Beegle,	Muskegon, R. 6.
Samuel J. Keur Milk Depot,	Samuel J. Keur,	Muskegon, R. 4.
Peter Vos Milk Depot,	Peter Vos,	Muskegon.
John Hogan Milk Depot,	John Hogan,	Muskegon, R. 8.
John Berghius Milk Depot,	John Berghius,	Muskegon.
Paul Venske Milk Depot,	Paul Venske,	Muskegon.
Peerless Creamery,	Felster & Knudsen,	Muskegon.
Casnovia Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Dalton Milk Depot,	Guy Speed,	Muskegon, R. 6.
Dalton Creamery Co.,	E. J. Peterson,	Muskegon.
Moreland Cream Station,	Dalton Creamery Co.,	Muskegon.
Udpike Cream Station,	Dalton Creamery Co.,	Muskegon.
Brunswick Cream Station,	Holland Crystal Cry. Co.,	Holland.
White Lake Creamery Co.,	Ed. Rogers, Mgr.,	Montague.

NEWAYGO COUNTY.

Fremont Creamery,	Fremont Creamery Co.,	Fremont.
Grant Cooperative Creamery,	Grant Cooperative Creamery Co.,	Grant.
Bishop Creamery Co.,	John Dobben,	Fremont.
Beaver Valley Cry.,	Beaver Valley Creamery Co.,	Bitely.
Blue Line Creamery,	B. C. Martin,	White Cloud.
Rough River Creamery Co.,	J. Vander Molen,	Grant, R. 3.
Woodville Cream Station,	Swift & Co.,	Alma.
Reeman Creamery,	Reeman Cooperative Creamery Co.,	Reeman.
Ramona Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Woodville Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Wooster Cream Station,	Dalton Creamery Co.,	Muskegon.
Sitka Cream Station,	Holland Crystal Creamery,	Holland.
Brookside Cream Station,	Holland Crystal Creamery,	Holland.
Etna Cream Station,	Holland Crystal Creamery,	Holland.

OAKLAND COUNTY.

North Farmington Milk Depot,	M. B. Armstrong,	Pontiac.
Holly Cream Station,	Crouse & Parshall Dairy Products Co.,	Fenton.
Holly Cream Station,	Swift & Co.,	Walled Lake.
Willow Brook Cheese Factory,	C. G. Freeman,	Detroit.
South Lyon Milk Depot,	Detroit Creamery Co.,	Detroit.
Clarenceville Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
New Hudson Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Davisburg Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Holly Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Rose Centre Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Geo. H. King Milk Depot,	Geo. H. King,	Royal Oak.
Pontiac Cooperative Creamery Co.,	F. C. King, Mgr.,	Pontiac.
Pontiac Receiving Station,	Pontiac Cooperative Creamery Co.,	Pontiac.
Farmington Cheese Factory,	F. M. Warner Cheese Co.,	Farmington.
Powers Cheese Factory,	F. M. Warner Cheese Co.,	Farmington.
Novi Cheese Factory,	F. M. Warner Cheese Co.,	Farmington.
Franklin Cheese Factory, (Bloomfield),	F. M. Warner Cheese Co.,	Farmington.
Avon Milk House,	F. W. Yates,	Rochester, R. 3.
Holly Cream Station,	Crouse & Parshall,	Fenton.

OCEANA COUNTY.

Name.	Owner or Manager.	Postoffice.
Rothbury Creamery,	Rothbury Creamery Co.,	Rothbury.
Shelby Creamery,	Shelby Dairy Co.,	Shelby.
Ferry Cream Station,	Shelby Dairy Co.,	Shelby.
New Era Creamery,	New Era Creamery Co.,	New Era.
Heperia Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Mears Cream Station,	Dalton Creamery Co.,	Muskegon.
Pentwater Cream Station,	Dalton Creamery Co.,	Muskegon.
Crystal Valley Cream Station,	Dalton Creamery Co.,	Muskegon.
Hart Creamery,	E. S. Powers,	Hart.
Claybanks Creamery,	Claybanks Cooperative Cry. Assn.,	Montague, R. 1.

OGEMAW COUNTY.

Prescott Cream Station,	Vasold Bros. & Co.,	Bay City.
Ogemaw Cream Cheese Co.,	Wellington Gilbert,	Lupton.
West Branch Cream Station,	Michigan Creamery Co.,	Saginaw.
Rose City Creamery,	W. A. Cook,	Rose City.

ONTONAGON COUNTY.

Ontonagon Creamery,	Ontonagon Creamery Co.,	Ontonagon.
Matchwood Cream Station,	Bridgeman-Russell Co.,	Hancock.
Paynesville Cream Station,	Bridgeman-Russell Co.,	Hancock.
Ontonagon Valley Creamery Co.,	C. J. Hatfield, Mgr.,	Ewen.
Bruce Crossing Cream Station,	Ontonagon Valley Creamery Co.,	Ewen.
Paynesville Cream Station,	Ontonagon Valley Creamery Co.,	Ewen.

OSCEOLA COUNTY.

Hersey Creamery,	Hersey Creamery Co.,	Hersey.
Marion Cream Station,	Durand Creamery Co.,	Durand.
Ashton Cream Station,	Swift & Co.,	Alma.
Dighton Cream Station,	Swift & Co.,	Alma.
LeRoy Cream Station,	Swift & Co.,	Alma.
Orono Cream Station,	Swift & Co.,	Alma.
Park Lake Cream Station,	Swift & Co.,	Alma.
Reed City Cream Station,	Swift & Co.,	Alma.
Tustin Cream Station,	Swift & Co.,	Alma.
Hersey Cream Station,	Gladwin Butter Co.,	Gladwin.
Ewart Cream Station,	Michigan Creamery Co.,	Saginaw.
Hersey Cream Station,	Michigan Creamery Co.,	Saginaw.
Ewart Creamery,	Geo. A. & J. M. Glerum,	Ewart.
Sears Cream Station,	Geo. A. & J. M. Glerum,	Ewart.
Avondale Cream Station,	Geo. A. & J. M. Glerum,	Ewart.
Oliver Cream Station,	Michigan Creamery Co.,	Saginaw.
Ewart Cream Station,	Geo. D. Johnson,	Ewart.
Hersey Cream Station,	F. S. Smith,	Hersey, Box 3.
Reed City Butter Factory,	Smith & Ruthruff,	Reed City.
South Ewart Cheese Factory,	N. B. Horton,	Ewart.
Tustin Cream Station,	Boyland Creamery Co.,	Grand Rapids.
Marion Cream Station,	Michigan Produce Co.,	Clare.
Leroy Creamery,	Wm. A. Conry,	Leroy.
Ashton Cream Station,	J. C. Halladay,	Ashton.
Tustin Cream Station,	L. Barber & Co.,	Edmore.
Marion (City) Cream Station,	Swift & Co.,	Alma.
Tustin Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Dighton Cream Station,	Durand Creamery Co.,	Durand.
Reed City Cream Station,	Michigan Creamery Co.,	Saginaw.

OSCODA COUNTY.

Comins Weighing Station,	Tawas Butter Co.,	Tawas City.
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OTSEGO COUNTY.

Otsego Creamery,	Otsego Creamery Co.,	Otsego.
Gaylord Creamery,	Gaylord Creamery Co.,	Gaylord.
Gaylord Milk Depot,	Stanley Kwapis,	Gaylord.

OTTAWA COUNTY.

Holland Crystal Creamery,	C. J. Lokker & Co.,	Holland.
Noodeloos Cream Station,	C. J. Lokker & Co.,	Holland.
Jamestown Creamery,	Jamestown Cooperative Cry. Co.,	Hudsonville, R. 3.
Jamestown Skimming Station,	Jamestown Cooperative Cry. Co.,	Hudsonville, R. 3.
Vriesland Creamery,	Vriesland Creamery Co.,	Vriesland.
Farmers Cooperative Creamery,	Farmers Cooperative Creamery Co.,	Conklin.
Interurban Creamery Co.,	Jno. Van Roka, (Hudsonville R. 4)	Jamestown.
Allendale Cooperative Creamery,	Allendale Cooperative Creamery Co.,	Allendale.
Beaverdam Creamery Co.,	D. Bekins, Mgr.	Zeeland, R. 2.
Hudsonville Creamery Co.,	John Vander Heide,	Hudsonville.
Holland Creamery,	E. R. Brakesma,	Holland, R. 1.

OAKLAND COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
Crisp Creamery,	Crisp Creamery Co.,	Holland, R. 2.
Zeeland Township Cheese Factory,	Phoenix Cheese Co.,	Zeeland.
Blendon Skimming Station,	Phoenix Cheese Co.,	Zeeland.
Harlem Skimming Station,	Phoenix Cheese Co.,	Zeeland.
Dennison Cream Station,	Grand Rapids Creamery Co.,	Grand Rapids.
Eastmanville Cream Station,	Grand Rapids Creamery Co.,	Grand Rapids.
Bauer Creamery,	Bauer Creamery Co.,	Jenison, R. 1.
Blendon Skimming Station,	Bauer Creamery Co.,	Jenison, R. 1.
Coopersville Creamery,	Cooperative Creamery Co.,	Coopersville.
Nunica Skimming Station,	Cooperative Creamery Co.,	Coopersville.
Crystal Creamery,	L. J. Hinken,	Coopersville.
Nunica Creamery,	L. J. Hinken,	Coopersville.
West Olive Cream Station,	Sanitary Milk Co.,	Grand Rapids.

SAGINAW COUNTY.

Frankentrost Creamery,	M. Janson,	Saginaw, R. 4.
Fenmore Cream Station,	Durand Creamery Co.,	Durand.
Marion Springs Cream Station,	Durand Creamery Co.,	Durand.
Frankenmuth Cheese Factory,	Frankenmuth Cheese Mfg. Co.,	Frankenmuth
Oakley Cream Station,	Flushing Butter Co.,	Flushing.
Brady Center Cream Station,	Flushing Butter Co.,	Flushing.
Chesaning Cream Station,	Flushing Butter Co.,	Flushing.
Brant Cream Station,	Flushing Butter Co.,	Flushing.
Brant Center Cream Station,	Flushing Butter Co.,	Flushing.
Fergus Cream Station,	Flushing Butter Co.,	Flushing.
St. Charles Cream Station,	Flushing Butter Co.,	Flushing.
St. Charles Cream Station, R. F. D.,	Flushing Butter Co.,	Flushing.
Buena Vista Cheese Factory,	Buena Vista Cheese Co.,	Saginaw, R. 4.
Merrill Cream Station,	Swift & Co.,	Alma.
Star Cheese Factory,	Star Cheese Co.,	Frankenmuth.
Saginaw Creamery,	Saginaw Creamery Co.,	Saginaw.
Saginaw Twp., Skimming Station,	Saginaw Creamery Co.,	Saginaw.
Saginaw Milk Depot,	Parker Dairy Co.,	Saginaw.
South Brant Cheese Factory,	L. A. Snyder,	Brant.
Saginaw Creamery,	Michigan Creamery Co.,	Saginaw.
Chesaning Cream Station,	Michigan Creamery Co.,	Saginaw.
Monitor Cheese Factory,	Charles Voss,	Bay City, Sta. A.
Blackmar Cheese Co.,	W. A. Judd,	Fosters, R. 1.
Union Cheese Factory,	Union Cheese Mfg. Co.,	Frankenmuth, R. 2.
Maple Grove Elgin Butter Factory,	Adolph Bueche, Mgr.,	New Lothrop, R. F. D.
Albee Cream Station,	Chesaning Produce Co.,	Chesaning.
Prescott Cream Station,	Michigan Creamery Co.,	Saginaw.
Birch Run Milk Station,	Clio Condensed Milk Co.,	Clio.
Flint River Creamery,	J. O. Malone,	Burt.
Freeland Creamery,	Vasold Bros. & Co.,	Bay City.
Taymouth Cheese Factory,	Taymouth Cheese Co.,	Birch Run, R. F. D.
St. Charles Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Merrill Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Lakefield Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Ryan Cream Station,	Breckenridge Creamery Co.,	Breckenridge.
Hemlock Creamery Co.,	Wm. Pahl,	Hemlock.
Freeland Cream Station,	Michigan Creamery Co.,	Saginaw.

SANILAC COUNTY.

Roseburg Creamery,	Roseburg Butter Co.,	Yale, R. 5.
Greenleaf Creamery,	Greenleaf Creamery Co.,	Cass City, R. 1.
Deckerville Creamery,	Union Creamery Co.,	Deckerville.
Shabbona Creamery,	Shabbona Creamery Co.,	Shabbona.
Elmer Creamery,	Shabbona Creamery Co.,	Shabbona.
Minden City Creamery,	L. H. Riedel,	Minden City.
Croswell Creamery,	Croswell Creamery Co.,	Croswell.
Minden City Cream Station,	Medina County Creamery Co.,	Detroit.
Marlette Creamery,	Equity Creamery Co.,	Marlette.
Decker Cream Station,	Equity Creamery Co.,	Marlette.
Lamott Cream Station,	Equity Creamery Co.,	Marlette.
Marlette Cream Station,	Equity Creamery Co.,	Marlette.
Flynn Twp. Butter Factory,	Red Star Creamery Assn.,	Marlette.
Brown City Cream Station,	Port Huron Creamery Co.,	Port Huron.
Decker Cream Station,	Port Huron Creamery Co.,	Port Huron.
Snover Cream Station,	Port Huron Creamery Co.,	Port Huron.
Applegate Cream Station,	Port Huron Creamery Co.,	Port Huron.
Tyre Cream Station,	Port Huron Creamery Co.,	Port Huron.
Croswell Cream Station,	Port Huron Creamery Co.,	Port Huron.
Amadore Cream Station,	Port Huron Creamery Co.,	Port Huron.
Carsonville Cream Station,	Port Huron Creamery Co.,	Port Huron.
Deckerville Cream Station,	Port Huron Creamery Co.,	Port Huron.

SANILAC COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
Melvin Cream Station,	Port Huron Creamery Co.,	Port Huron.
Marlette Cream Station,	Port Huron Creamery Co.,	Port Huron.
Valley Center Cream Station,	Port Huron Creamery Co.,	Port Huron.
Applegate Creamery,	W. T. Leonard & Son,	Norwood, N. Y.
Sandusky Creamery,	W. T. Leonard & Son,	Norwood, N. Y.
James Miller Cream Station,	James Miller,	Croswell.
Forestville Cream Station,	L. H. Riedel Creamery Co.,	Minden City.
Tyre Cream Station,	L. H. Riedel Creamery Co.,	Minden City.
Forestville Cream Station,	W. J. Moore,	Minden City.
Downington Cheese Factory,	Henry Muir,	Downington.
Brown City Cream Station,	Michigan Creamery Co.,	Saginaw.
Marlette Cream Station,	Michigan Creamery Co.,	Saginaw.
Port Sanilac Cream Station,	Spencer & Howes,	Detroit.
Peck Creamery,	Peck Creamery Co.,	Peck.
Brown City Creamery,	Equity Creamery Co.,	Brown City.
Brown City Cream Station,	Equity Creamery Co.,	Brown City.
Melvin Cream Station,	Michigan Creamery Co.,	Saginaw.
Valley Center Cream Station,	Equity Creamery Co.,	Brown City.

SCHOOLCRAFT COUNTY.

Germfask Creamery,	L. M. French,	Germfask.
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SHIawassee County.

Henderson Creamery,	Henderson Butter Co.,	Henderson.
Carland Cheese Factory,	Lee Head, Mgr.,	Carland.
Perry Butter & Cheese Factory,	Halpin Creameries,	Detroit.
Lennon Creamery,	Lennon Creamery Co.,	Lennon.
Durand Creamery,	Durand Creamery Co.,	Durand.
Byron Cream Station,	Durand Creamery Co.,	Durand.
Borcroft Cream Station,	Durand Creamery Co.,	Durand.
Easton Cream Station,	Durand Creamery Co.,	Durand.
Shattsburg Cream Station,	Durand Creamery Co.,	Durand.
Vernon Cream Station,	Durand Creamery Co.,	Durand.
Byron Cheese Factory,	T. C. Magee,	Byron.
Vernon Cream Station,	Flushing Butter Co.,	Flushing.
New Lothrop Cream Station,	Flushing Butter Co.,	Flushing.
Byron Cream Station,	Swift & Co.,	Alma.
Vernon Cream Station,	Swift & Co.,	Alma.
Owosso Condensery and Milk Depot,	Detroit Creamery Co.,	Detroit.
Laingsburg Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Owosso Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Morrice Creamery,	Bishop Creamery Co.,	Buchanan.
Bancroft Cheese Factory,	MacLaren Imperial Cheese Co.,	Detroit.
Henderson Cheese Factory,	M. C. Dowd, Prop.,	Henderson.
New Lothrop Receiving Station,	Maple Grove Elgin Butter Factory,	New Lothrop, R. F. D.
O. C. Launstein Milk Depot,	O. C. Launstein,	Owosso.
Carl Alger Milk Depot,	Carl Alger,	Owosso.
Henderson Cream Station,	Detroit Creamery Co.,	Detroit.
New Lothrop Cream Station,	Montrose Creamery Co.,	Montrose.
New Lothrop Cream Station,	Durand Creamery Co.,	Durand.
Laingsburg Cream Station,	Michigan Creamery Co.,	Saginaw.
Laingsburg Cream Station,	Swift & Co.,	Alma.
Swartz Creek Cream Station,	Durand Creamery Co.,	Durand.

ST. CLAIR COUNTY.

Germania Cooperative Cheese Factory,	F. A. Hang,	Marine City.
St. Clair Creamery,	Chas. H. Otter,	St. Clair.
Hillside Skimming Station,	Chas. H. Otter,	St. Clair.
Maple Grove Cheese Factory,	Simon Babel & Co.,	Marine City, R. 3.
Avoca Butter Factory,	Avoca Butter Co.,	Avoca.
Michigan Cheese Factory,	August Kaatz, Mgr.,	Marine City.
Pine Grove Cheese Factory,	Andrew Hahn, Mgr.,	Marine City, R. 3.
Locust Lawn Creamery,	L. D. Cole,	Blaine.
Capac Cream Station,	Medina County Creamery Co.,	Detroit.
Avoca Cream Station,	Port Huron Creamery Co.,	Port Huron.
Lambs Cream Station,	Port Huron Creamery Co.,	Port Huron.
Doyle Cream Station,	Port Huron Creamery Co.,	Port Huron.
Wales Cream Station,	Port Huron Creamery Co.,	Port Huron.
Berville Cream Station,	Port Huron Creamery Co.,	Port Huron.
Burus Cream Station,	Port Huron Creamery Co.,	Port Huron.
Kimball Cream Station,	Port Huron Creamery Co.,	Port Huron.
Columbus Cream Station,	Port Huron Creamery Co.,	Port Huron.
Smiths Creek Cream Station,	Port Huron Creamery Co.,	Port Huron.
Crockerville Cream Station,	Port Huron Creamery Co.,	Port Huron.
Jeddo Cream Station,	Port Huron Creamery Co.,	Port Huron.
L. D. Cole Cream Station,	F. L. Waterhouse, Mgr.,	Blaine.
L. D. Cole Cream Station,	C. Doxtalor, Mgr.,	Blaine.
Meyers Skimming Station,	Chesterfield Creamery Co.,	Mt. Clemens.
Koch Skimming Station,	Chesterfield Creamery Co.,	Mt. Clemens.
Capac Cream Station,	Spencer & Howes,	Detroit.
Casco Creamery,	Chas. Zentgrebe,	Lenox, R. F. D.
Yale Cream Station,	Michigan Creamery Co.,	Saginaw.
Capac Cream Station,	Durand Creamery Co.,	Durand.

ST. JOSEPH COUNTY.

Name.	Owner or Manager.	Postoffice.
Constantine Creamery,	Constantine Creamery Co.,	Constantine.
Colon Creamery,	Colon Creamery Co.,	Colon.
White Pigeon Creamery,	White Pigeon Dairy & Produce Co.,	White Pigeon.
Centreville Cream Station,	Jackson Farm Produce Co.,	Jackson.
Colon Cream Station,	Jackson Farm Produce Co.,	Jackson.
Burr Oak Cream Station,	Jackson Farm Produce Co.,	Jackson.
F. B. Walters Milk Depot,	F. B. Walters,	Sturgis.
Howardsville Milk Depot,	South Bend Creamery Co.,	South Bend, Ind.

TUSCOLA COUNTY.

Mayville Creamery,	Mayville Creamery Co.,	Mayville.
Millington Cheese Factory,	Halpin Creameries,	Detroit.
Vassar Butter & Cheese Factory,	Halpin Creameries,	Caro.
Thumb Cooperative Creamery Co.,	W. A. Mudge,	Unionville.
Unionville Creamery,	Unionville Creamery Co.,	Caro.
Cass City Creamery,	Thumb Cooperative Creamery Co.,	Bay City.
Fairgrove Cream Station,	Vasold Bros. & Co.,	Kingston.
Kingston Creamery,	Holmes & Maynard,	Arbela.
Arbela Cheese Factory,	J. A. Pickett, Mgr.,	Tuscola.
Tuscola Cheese Mfg. Co.,	G. W. Dimond, Mgr.,	Detroit.
Vassar Condensed Milk Factory,	Vassar Condensed Milk Co.,	Detroit.
Deford Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Millington Cream Station,	Towards Wayne County Cry. Co.,	Port Huron.
Cass City Cream Station,	Port Huron Creamery Co.,	Port Huron.
Juniaata Cream Station,	Port Huron Creamery Co.,	Saginaw.
Fairgrove Village Cream Station,	Butler & Albertson,	Akron.
Akron Cheese Factory,	J. A. Gardham,	Farmington.
Gagetown Cheese Factory,	F. M. Warner Cheese Co.,	Millington, R. 1.
Stone Road Cheese Factory,	Stone Road Cheese Co.,	Akron, R. 3.
Quanicasee Cream Station,	P. W. Howell,	Reese.
Reese Creamery & Cheese Factory,	Reese Cooperative Cry. & Cheese Co.,	Silverwood.
Silverwood Cheese Factory,	A. L. Rice,	Mayville.
Mayville Creamery & Cheese Factory,	J. G. Cartright & Sons,	Mayville.
East Dayton Cream Station,	J. G. Cartright & Sons,	Saginaw.
Wahjamega Cream Station,	Michigan Creamery Co.	

VAN BUREN COUNTY.

Gobleville Creamery,	Gobleville Creamery Co.,	Gobleville.
Base Line Cheese Factory,	Lynn Reid,	Bloomingsdale.
Lawrence Creamery,	Lawrence Cooperative Cry. Co.,	Lawrence.
Decatur Creamery,	Decatur Creamery Co.,	Decatur.
Bangor Creamery,	Wood & Trim,	Bangor.
Paw Paw Creamery,	A. B. Cossairt,	Paw Paw.
Bloomingsdale Creamery,	Bloomingsdale Cooperative Cry. Co.,	Bloomingsdale.
South Haven Creamery,	South Haven Creamery Co.,	South Haven.
Lawrence Cream Station,	Fox River Butter Co.,	Chicago.
South Haven Creamery,	Ingraham Sanitary Milk Co.,	South Haven.
Pine Grove Twp. Cream Station,	D. V. Chamberlain,	Kendall.

WASHTENAW COUNTY.

Wurster Bros. Milk Depot,	Wurster Bros.,	Ann Arbor.
Worden Cooperative Cry. Assn.,	Wm. Geiger, Mgr.,	Salem.
James B. Summer Milk Depot,	James B. Summer,	Ann Arbor.
Ann Arbor Creamery,	Eaton & Allen,	Ann Arbor.
Emery Milk Depot,	Eaton & Allen,	Ann Arbor.
Geo. Curry Milk Depot,	Geo. Curry,	Ann Arbor.
J. S. Cummings Cream Station,	J. S. Cummings,	Chelsea.
Dexter Cream Station,	J. S. Cummings,	Chelsea.
Manchester Cream Station,	Jackson Farm Produce Co.,	Jackson.
Willie Creamery,	F. J. Fletcher & Co.,	Willis.
Salem Milk Depot,	Detroit Creamery Co.,	Detroit.
Foster Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Whittaker Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Milan Cream Station,	Towards Wayne County Cry. Co.,	Detroit.
Ypsilanti Dairy Assn.,	S. N. Wood,	Ypsilanti.
Stony Creek Skimming Station,	Ypsilanti Dairy Assn.,	Ypsilanti.
Cherry Hall Skimming Station,	Ypsilanti Dairy Assn.,	Ypsilanti.
Bridgewater Cream Station,	Spencer & Howes,	Detroit.
Milan Cream Station,	Medina Co. Creamery Co.,	Detroit.
Riverside Skimming Station,	W. F. Allen,	Milan.
Manchester Creamery,	Manchester Creamery Co.,	Manchester.

WAYNE COUNTY.

Frank R. Smith Milk Depot,	Frank R. Smith, 83 Melrose Ave.,	Detroit.
Louis C. Fritz Milk Depot,	Louis C. Fritz, 182 Arndt St.,	Detroit.
Belle Isle Creamery,	Henry Laethem,	Detroit.
Chas. Swegles Milk Depot,	Chas. Swegles,	Inkster.
Goldberg's Creamery,	Goldberg's Oakland Co. Cry. Co.,	Detroit.
Johnson Creamery,	Lyman Johnson,	Wyandotte.

WAYNE COUNTY—Continued.

Name.	Owner or Manager.	Postoffice.
West Sumpter Milk Depot,	Walter Beebe,	Willis, R. 1.
Wallaceville Milk Station,	John Schlaft, 277 Tillman Ave.,	Detroit.
Bell Branch Milk Station,	John Schlaft, 277 Tillman Ave.,	Detroit.
Red Mill Milk Station,	John Schlaft, 277 Tillman Ave.,	Detroit.
Weiss Creamery,	John H. Weiss, 215 Baldwin Ave.,	Detroit.
Belleville Creamery,	Van Buren Creamery Co.,	Belleville.
J. H. Wilson & Sons Creamery,	J. H. Wilson & Sons, 87 Savoy St.,	Detroit.
Tony Schlaft Milk Depot,	Tony Schlaft,	Dearborn.
Clarenceville Milk Station,	Elmer Dohany,	Farmington.
F. C. Frank Milk Depot,	F. C. Frank, 279 Philadelphia Ave.,	Detroit.
Spencer & Howes Creamery,	Spencer & Howes,	Detroit.
Medina County Creamery,	Medina County Creamery Co.,	Detroit.
West Sumpter Cream Station,	Medina County Creamery Co.,	Detroit.
Wm. Dickinson, Jr., Milk Depot,	Wm. Dickinson, Jr.,	Detroit.
Detroit Creamery & Milk Depot,	Detroit Creamery Co.,	Detroit.
Canton Milk Depot,	Detroit Creamery Co.,	Detroit.
Elm Milk Depot,	Detroit Creamery Co.,	Detroit.
Flat Rock Milk Depot,	Detroit Creamery Co.,	Detroit.
Hand Milk Depot,	Detroit Creamery Co.,	Detroit.
Holland Milk Depot,	Detroit Creamery Co.,	Detroit.
Inkster Milk Depot,	Detroit Creamery Co.,	Detroit.
Perrinsville Milk Depot,	Detroit Creamery Co.,	Detroit.
Plymouth Milk Depot,	Detroit Creamery Co.,	Detroit.
Freston Milk Depot,	Detroit Creamery Co.,	Detroit.
Stark Milk Depot,	Detroit Creamery Co.,	Detroit.
Swegies Milk Depot,	Detroit Creamery Co.,	Detroit.
Detroit Creamery,	Towards Wayne County Cry. Co.,	Detroit.
Beech Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Crooks Crossing Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Denton Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Gibraltar Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Newburg Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Newport Milk Depot,	Towards Wayne County Cry.,	Detroit.
Romulus Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
Sand Hill Milk Depot,	Towards Wayne County Cry. Co.,	Detroit.
C. L. Bossardet Milk Depot,	C. L. Bossardet,	Detroit.
Geo. D. Brown Creamery,	Geo. D. Brown,	Highland Park.
Carl Kramann Milk Depot,	Carl Kramann, 916 St. Aubin Ave.,	Detroit.
Arctic Ice Cream Co., Creamery,	Arctic Ice Cr. Co., 507 Gd. River Ave.,	Detroit.
E. M. Starkweather Milk Depot,	E. M. Starkweather,	Northville.
C. D. Creamery,	C. D. Cry. Co., 148 Jos. Campau,	Detroit.
Breitmeyer Creamery,	H. Breitmeyer, 2166 Jos. Campau,	Detroit.
Irving Bossardet Milk Depot,	Irving Bossardet, 107 Hooker St.,	Detroit.
Chas. L. Bossardet Milk Depot,	Chas. L. Bossardet, 1227 Wabash Ave.,	Detroit.
Eugene F. Roy & Son Milk Depot,	Eugene F. Roy & Son, 1018 Wabash Ave.,	Detroit.
Ford Market Creamery,	E. D. Shedd & Son,	Highland Park.
Wolverine Creamery,	E. DeMuth, 465½ Woodward Ave.,	Detroit.

WEXFORD COUNTY.

Cadillac Creamery,	Cadillac Ice Cream Co.,	Cadillac.
Boon Cream Station,	Swift & Co.,	Alma.
Buckley Cream Station,	Swift & Co.,	Alma.
Harrietta Cream Station,	Swift & Co.,	Alma.
Manton Cream Station,	Swift & Co.,	Alma.
Mesick Cream Station,	Swift & Co.,	Alma.
Wexford Cream Station,	Swift & Co.,	Alma.
Mesick Cream Station,	Michigan Creamery Co.,	Saginaw.
Yuma Cream Station,	Michigan Creamery Co.,	Saginaw.
Buckley Milk Depot,	Farmers Market Co.,	Buckley.
Wexford Milk Depot,	Kate Sanford,	Wexford.
Cadillac Cream Station,	Swift & Co.,	Alma.
Boon Cream Station,	Sanitary Milk Co.,	Grand Rapids.
Manton Cream Station,	Rudell Creamery,	Grand Rapids.
Wexford Cream Station,	Rudell Creamery,	Grand Rapids.

LAWS AND DECISIONS.



LAWS OF MICHIGAN.

RELATIVE TO

INSPECTION AND ADULTERATION OF FOODS AND DRUGS.

POWERS AND DUTIES OF THE COMMISSIONER.

AN ACT to provide for the appointment of a Dairy and Food Commissioner, and to define his powers and duties and fix his compensation.

(Act No. 211, Public Acts, 1893.)

The People of the State of Michigan enact:

1. (C. L., 4973) SECTION 1. That within thirty days after this act shall take effect, the Governor by and with the consent of the Senate, shall appoint a suitable person to be Dairy and Food Commissioner, which office is hereby created, and which commissioner so appointed shall hold his office until the first day of January, one thousand eight hundred and ninety-five, and until his successor is appointed and qualified. At the next regular session of the legislature and every two years thereafter, the Governor, by and with the advice and consent of the Senate, shall appoint a Dairy and Food Commissioner, who shall hold his office for the term of two years from the first day of January in the year of his appointment and until his successor is appointed and qualified.

2. (C. L., 4974) SEC. 2. The governor shall have power to remove such commissioner at any time in his discretion; but the reasons for such removal shall be laid before the Senate at the next regular or special session of the legislature thereafter, and in case of a vacancy in the office of commissioner from any cause, the Governor may appoint another person to fill the same.

3. (C. L., 4975) SEC. 3. Before entering upon the duties of his office, the person so appointed shall make, subscribe, and file in the office of the Secretary of State, an oath of office in the form prescribed by section one of article eighteen of the constitution of this State, and shall enter into bonds with the people of the State of Michigan in the sum of ten thousand dollars, with sureties to be approved by the Governor, conditioned for the faithful performance of his duties.

4. (C. L., 4976) SEC. 4. Said commissioner shall receive an annual salary of two thousand dollars. The said commissioner is hereby authorized and empowered, by and with the advice and consent of the governor,

to appoint a deputy commissioner. The salary of the deputy commissioner shall be fifteen hundred dollars per annum. The said commissioner may also appoint eight regular inspectors, who shall receive an annual salary not to exceed one thousand dollars per year, and such other special inspectors as the proper performance of the duties of the office may require, which special inspectors shall be paid not to exceed three dollars per day for the time actually employed: Provided, That the whole sum paid to such special inspectors shall not exceed the income to said department derived from registration fees provided by law. The persons so appointed shall have power to administer oaths in all matters relative to the dairy and food laws and shall take and subscribe the constitutional oath of office and file the same in the office of the Secretary of State; and they shall hold office during the pleasure of the commissioner. The inspectors shall have the same right of access to the places to be inspected as the said commissioner or his deputy. The commissioner shall appoint such clerks as he may deem necessary for the transaction of the business of his office. The salaries and expenses authorized by this section shall be for the unexpired part of the fiscal year ending June thirty, nineteen hundred five, and each fiscal year thereafter. Said salaries are to be paid monthly on the warrant of the Auditor General. The actual and necessary expenses of the commissioner, deputy and inspectors, in the performance of their official duties, shall be audited by the State Board of Auditors and paid upon the warrant of the Auditor General. Such compensation and expenses shall be certified, audited and paid in the same manner as salaries and expenses paid similar officers. The deputy commissioner and regular inspectors shall enter into bonds with the people of the State of Michigan in the sum of one thousand dollars each, with sureties to be approved by the commissioner, conditioned for the faithful performance of their respective duties. The Board of State Auditors shall provide office room, and the necessary furniture and fixtures and the necessary stationery, supplies and printing for the conducting of the business of said commissioner, on his application to said board therefor. Said office shall be and remain in the city of Lansing.

[Am. by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 186, P. A. 1901. Am. by Act No. 230, P. A. 1903. Am. by Act No. 12, P. A. 1905. Am. by Act No. 18, P. A. 1913.]

5. (C. L., 4977) SEC. 5. The commissioner, by and with the consent of the Governor, shall appoint a suitable and competent person as State Analyst, who shall be a practical analytical chemist. The commissioner, in like manner, may appoint as assistant chemist. Before entering upon the duties of their offices, the analyst and assistant chemist shall take, subscribe and file in the office of the Secretary of State the constitutional oath of office. The term of office shall continue during the pleasure of the commissioner. The Board of State Auditors shall provide a room in connection with the Dairy and Food Commissioner for the laboratory of the State Analyst and his assistant, and the necessary furniture and fixtures therefor. In case of the absence or inability of the State Analyst or his assistant to perform his duty, the commissioner may appoint some competent person to perform the same tempor-

arily, which person shall take, subscribe and file the constitutional oath of office. The salaries and expenses authorized by this section shall be for the unexpired part of the fiscal year ending June thirty, nineteen hundred five, and each fiscal year thereafter, said salaries to be payable monthly on the warrant of the Auditor General. The salary of the chemist shall be not to exceed two thousand dollars; the salary of the assistant chemist shall be not to exceed twelve hundred dollars. The actual and necessary expenses of the chemist and the assistant chemist, in the performance of their official duties, shall be audited by the Board of State Auditors, and paid upon the warrant of the Auditor General. Such an amount as is found to be necessary in the proper performance of the work of the analyst may be expended for chemical supplies. Such compensations, expenses and supplies shall be certified, audited and paid in the same manner as the salaries, expenses and supplies of similar officers.

[Am. by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 186, P. A. 1901. Am. by Act No. 230, P. A. 1903. Am. by Act No. 12, P. A. 1905.]

6. (C. L., 4978) SEC. 6. It shall be the duty of the Dairy and Food Commissioner to carefully inquire into the dairy and food and drink products and the several articles which are foods or drinks, or the necessary constituents of foods or drink, which are manufactured or sold or exposed or offered for sale in this State, and he may, in a lawful manner, procure samples of the same and direct the State Analyst to make due and careful examination of the same, and report to the commissioner the result of the analysis of all and any of such food and drink products or dairy products as are adulterated, impure or unwholesome in contravention of the laws of this State; and it shall be the duty of the commissioner to make a complaint against the manufacturer or vendor thereof in the proper county and furnish all evidence thereof, to obtain a conviction of the offense charged. The Dairy and Food Commissioner, or his deputy, or any person appointed by him for that purpose may make complaint and cause proceedings to be commenced against any person for the enforcement of any of the laws relative to adulterated, impure or unwholesome food or drink, and in such case he shall not be obliged to furnish security for costs and shall have power, in the performance of his duties, to enter into any creamery, factory, store, salesroom, drug store, or laboratory, or place where he has reason to believe food or drink is made, stored, sold or offered for sale and open any cask, tub, jar, bottle or package containing, or supposed to contain, any article of food or drink and examine or cause to be examined the contents thereof, and take therefrom samples for analysis. The person making such inspection shall take such sample of such article or product in the presence of at least one witness, and he shall in the presence of said witness, mark or seal such sample and shall tender at the time of taking to the manufacturer or vendor of such product, or to the person having the custody of the same, the value thereof, and a statement in writing for the taking of such sample. Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspectors, that filthy, or unsanitary conditions exist or are permitted to exist in the operation of any bakery, confectionery, or ice cream plant, or in any place where any food or

drink products are manufactured, stored, deposited or sold for any purpose whatever, the proprietor or proprietors, owner or owners, of such bakery, confectionery or ice cream plant, or any person or persons, owning or operating any plant where any food or drink products are manufactured, stored, deposited or sold, shall be first notified and warned by the commissioner, his deputy or inspectors to place such bakery, confectionery or ice cream plant, or any place where any food or drink products are manufactured, stored, deposited or sold in a sanitary condition within a reasonable length of time; and any person or persons owning and operating any bakery, confectionery or ice cream plant or any place where any food or drink products are manufactured, stored, deposited or sold, failing to obey such notice and warning, shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than twenty-five dollars nor more than three hundred dollars and costs of prosecution, or imprisonment in the county jail not to exceed ninety days, or until such fine and costs are paid, or both fine and imprisonment at the discretion of the court.

[Am. by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1887. Am. by Act No. 268, P. A. 1899. Am. by Act No. 12, P. A. 1905.]

7. (C. L., 4979) SEC. 7. The commissioner, his deputy or any person by said commissioner duly appointed for that purpose, is authorized at all times to seize and take possession of any and all food and dairy products, substitutes therefor, or imitation thereof kept for sale, exposed for sale or held in possession or under the control of any person which in the opinion of the said commissioner or his deputy or such person by him duly appointed, shall be contrary to the provisions of this act or other laws which now exist or which may be hereafter enacted.

First, The person so making such seizure as aforesaid, shall take from such goods as seized a sample for the purpose of analysis and shall cause the remainder thereof to be boxed and sealed and shall leave the same in the possession of the person from whom they were seized, subject to such disposition as shall hereafter be made thereof according to the provisions of this act.

Second, The person so making such seizure, shall forward the sample so taken to the State Analyst for analysis, who shall make an analysis of the same and shall certify the results of such analysis, which certificate shall be prima facie evidence of the fact or facts therein certified to in any court where the same may be offered in evidence.

Third, If upon such analysis it shall appear that said food or dairy products are adulterated, substitutes or imitations within the meaning of this act, said commissioner, or his deputy or any person by him duly authorized may make complaint before any justice of the peace or police justice having jurisdiction in the city, village or township where such goods were seized, and thereupon said justice of the peace shall issue his summons to the person from whom said goods were seized, directing him to appear not less than six nor more than twelve days from the date of the issuing of said summons and show cause why said goods should not be condemned and disposed of. If the said person from whom said goods were seized cannot be found said summons shall be

served upon the person then in possession of the goods. The said summons shall be served at least six days before the time of appearance mentioned therein. If the person from whom said goods were seized cannot be found, and no one can be found in possession of said goods, and the defendants shall not appear on the return day, then said justice of the peace shall proceed in said cause in the same manner provided by law where a writ of attachment is returned not personally served upon any of the defendants and none of the defendants shall appear upon the return day.

Fourth, Unless cause to the contrary thereof is shown or if said goods shall be found upon trial to be in violation of any of the provisions of this act or other laws which now exist or which may be hereafter enacted, it shall be the duty of said justice of the peace or police justice to render judgment that said seized property be forfeited to the State of Michigan, and that the said goods be destroyed or sold by the said commissioner for any purpose other than to be used for food. The mode of procedure before said justice shall be the same, as near as may be as in civil proceedings before justices of the peace. Either parties may appeal to the circuit court as appeals are taken from justices' courts, but it shall not be necessary for the people to give any appeal bond.

Fifth, The proceeds arising from any such sale shall be paid into the State treasury and credited to the general fund: Provided, That if the owner or party claiming the property or goods so declared forfeited can produce and prove a written guarantee of purity, signed by the wholesaler, jobber, manufacturer or other party from whom said articles were purchased, then the proceeds of the sale of such articles, over and above the cost of seizure, forfeiture, and sale, shall be paid over to such owner or claimant to reimburse him, to the extent of such surplus, for his actual loss resulting from such seizure and forfeiture, as shown by the invoice.

Sixth, It shall be the duty of each prosecuting attorney when called upon by said commissioners or by any person by him authorized as aforesaid, to render any legal assistance in his power in proceedings under the provisions of this act, or any subsequent act relative to the adulteration of food, for the sale of impure or unwholesome food or food products.

[Am. by Act No. 245, P. A. 1895. Am. by Act No. 268, P. A. 1899. Am. by Act. No. 230, P. A. 1903.]

8. (C. L., 4980) SEC. 8. It shall be unlawful for the State Analyst, while he holds his office to furnish to any individual, firm or corporation, any certificate as to the purity or excellence of any article manufactured or sold by them to be used as food or in the preparation of food.

9. (C. L., 4981) SEC. 9. The commissioner shall make an annual report to the Governor on or before the first day of July in each year, and which shall be printed and published on or before the first day of September next thereafter, which report shall cover the doings of his office for the preceding fiscal year, which shall show, among other things, the number of manufacturing and other places inspected and by whom, the number of specimens of food articles analyzed, and the State Analyst's report upon each one; the number of complaints entered

against persons for violation of the laws relative to the adulteration of food, the number of convictions had, and the amount of fines imposed therefor, together with such recommendations relative to the statutes in force as his experience may justify. The commissioner shall also prepare, print and distribute to all the papers of the State, and to such persons as may be interested or may apply therefor, a monthly bulletin, in suitable paper covers, containing results of inspections, the results of analysis made by the State Analyst, with popular explanation of the same, and such other information as may come to him in his official capacity relating to the adulteration of food and drink products and of dairy products, so far as he may deem the same of benefit and advantage to the public; also a brief summary of all the work done during the month by the commissioner and his assistants in the enforcement of the laws of the State, but not more than ten thousand copies of each such monthly bulletin shall be printed.

[Am. by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 268, P. A. 1899.]

10. (C. L., 4982) SEC. 10. Any person who shall wilfully hinder or obstruct the Dairy and Food Commissioner, or his deputy or other person or inspector by him duly authorized, in the exercise of the powers conferred upon him by this act, shall be deemed guilty of a misdemeanor, and on conviction shall be punished by a fine of not less than ten dollars nor more than one hundred dollars, or by imprisonment in the county jail for not less than ten days nor more than ninety days, or both such fine and imprisonment in the discretion of the court.

[Added by Act No. 245, P. A. 1895.]

11. (C. L., 4983) SEC. 11. The sum of thirty-five thousand dollars is hereby appropriated for the fiscal year ending June 30, nineteen hundred six, and for each fiscal year thereafter, there is hereby appropriated the sum of thirty-five thousand dollars. Out of the amounts appropriated by this act shall be paid all salaries and expenses and chemical supplies provided for therein: Provided, That all expenses for stationery and printing shall be audited and paid in the same manner as other State Printing and stationery.

[Added by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 268, P. A. 1899. Am. by Act No. 186, P. A. 1901. Am. by Act No. 12, P. A. 1905.]

12. (C. L., 4989) SEC. 12. The Auditor General is hereby directed to annually add to and incorporate into the State tax, to be levied each year, the sum of thirty-five thousand dollars, which, when collected, shall be credited to the general fund to reimburse the same for the money appropriated by this act.

[Added by Act No. 245, P. A. 1895. Am. by Act No. 154, P. A. 1897. Am. by Act No. 268, P. A. 1899. Am. by Act No. 186, P. A. 1901. Am. by Act No. 230, P. A. 1903. Am. by Act No. 12, P. A. 1905.]

13. SEC. 13. It shall also be the duty of the Dairy and Food Commissioner to foster and encourage the dairy industry of the State, and,

for that purpose, he shall investigate the general conditions of the creameries, cheese factories, condensed milk factories, skimming stations, milk stations and farm dairies in this State, with full power to enter upon any premises for such investigation, with the object in view of improving the quality and creating and maintaining uniformity of the dairy products of the State; and should it become necessary, in the judgment of the Dairy and Food Commissioner, he may cause instruction to be given in any creamery, cheese factory, condensed milk factory, skimming station, milk station or farm dairy, or in any locality in this State, and in order to secure the proper feeding and care of cows, or the practical operation of any plant producing dairy products, and in order to secure such a uniform and standard quality of dairy products in this State, he shall furnish a sufficient number of competent inspectors, the appointment of whom is provided for in section four of this act, and they shall be duly qualified to act as such inspectors.

[Added by Act No. 12, P. A. 1905.]

14. SEC. 14. Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspectors, that any person is using, selling or furnishing to any skimming station, creamery, cheese factory, condensed milk factory, milk depot, farm dairy, milk dealer, the retail trade or to any consumer of milk, any impure or unwholesome milk or cream, which impurity or unwholesomeness is caused by the unsanitary or filthy condition of the premises where cows are kept, or by the unsanitary or filthy care or handling of the cows, or from the use of unclean utensils, or from unwholesome food, or from any other cause, the person so using, selling or furnishing to any skimming station, creamery, cheese factory, condensed milk factory, milk depot, farm dairy, milk dealer, the retail trade, or to any consumer of milk, any such milk or cream, shall first be notified and warned by the commissioner, his deputy or inspectors not to use, sell, or furnish such milk or cream to such skimming station, creamery, cheese factory, condensed milk factory, milk depot, farm dairy, milk dealer, the retail trade, or to any consumer of milk, and any person failing to obey such notice and warning and continuing to use, sell or furnish to any skimming station, creamery, cheese factory, condensed milk factory, farm dairy, milk dealer, or to the retail trade such impure or unwholesome milk or cream, shall be guilty of a misdemeanor, and, upon conviction thereof, shall be punished by a fine not less than ten dollars, nor more than fifty dollars, and costs of prosecution, or imprisonment in the county jail, not to exceed ninety days, or until such fine and costs are paid, or both fine and imprisonment at the discretion of the court.

[Added by Act No. 12, P. A. 1905.]

15. SEC. 15. Whenever it is determined by the Dairy and Food Commissioner, his deputy or inspectors, that unsanitary conditions exist or are permitted to exist in the operation of any skimming station, creamery, cheese factory, condensed milk factory, milk depot or farm dairy, the proprietor or proprietors, or manager of said skimming station, creamery, cheese factory, condensed milk factory or farm dairy, shall be first notified and warned by the commissioner, his deputy

or inspectors to place such skimming station, creamery, cheese factory, condensed milk factory, milk depot or farm dairy in a sanitary condition, within a reasonable length of time; and any person or persons owning or operating such skimming station, creamery, cheese factory, condensed milk factory, milk depot or farm dairy, failing to obey such notice and warning, shall be guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than twenty-five dollars, nor more than three hundred dollars, and costs of prosecution, or imprisonment in the county jail, not to exceed ninety days or until such fine and costs are paid, or both fine and imprisonment at the discretion of the court.

[Added by Act No. 12, P. A. 1905.]

16. SEC. 16. It shall be the duty of the proprietor or proprietors, (manager or managers), of every skimming station, creamery, cheese factory, condensed milk factory or milk or cream depot in the State where milk or cream is received by purchase or otherwise from three or more persons within thirty days after the commencement of the operation of said cheese factory, condensed milk factory or milk or cream depot and annually on the first day of April thereafter to register with the Dairy and Food Commissioner upon blanks furnished by said official, the location of such skimming station, creamery, cheese factory, condensed milk factory or milk or cream depot, and the name of its owner or owners and manager. And it shall be the duty of the proprietor or proprietors or manager of every skimming station, creamery, cheese factory, condensed milk factory or milk or cream depot in this State, where milk or cream is received by purchase or otherwise from three or more persons, to file a report with the Dairy and Food Commissioner, said report to be made on or before April first of each year, upon blanks furnished by said official, and to show the amount of milk or cream received by said skimming station, creamery, cheese factory, condensed milk factory or milk or cream depot during the year ending December 31 preceding; and said report shall show the amount of butter, cheese or condensed milk manufactured during the year, together with a list of the names and postoffice addresses of the patrons of said skimming station, creamery, cheese factory, condensed milk factory or milk or cream depot. Every skimming station, creamery, cheese factory, condensed milk factory or milk or cream depot, so registered and so reporting, shall pay to the office of the State Dairy and Food Commissioner an annual registration fee of five dollars, to be paid at the time of such registration. Whoever violates any of the provisions of this section, shall be deemed guilty of a misdemeanor, and for each and every offense shall be punished by a fine of not less than fifty dollars nor more than one hundred dollars and the costs of prosecution, or by imprisonment in the county jail for not more than thirty days or both. The money so collected by the Dairy and Food Commissioner shall be paid into the State Treasury and be used to help defray the expenses of the office of the Dairy and Food Commissioner, in addition to the annual appropriation therefor.

[Added by Act No. 12, P. A. 1905. Am. by Act No. 242, P. A. 1913.]

17. Sec. 17. Any person, persons or corporation who shall sell milk or cream from a wagon or other conveyance, depot or store, or who shall sell or deliver milk or cream to a hotel, restaurant, boarding house or any public place, shall be considered a milk dealer; and every milk dealer who shall sell milk or cream from a wagon or other conveyance, depot or store, or who shall sell, or deliver milk or cream to a hotel, restaurant, boarding house or any public place in any city, town or village of this State, must first obtain a license from the Dairy and Food Commissioner to sell such milk or cream. A license shall be required for each wagon or other conveyance, depot or store. Each dealer shall pay to the Dairy and Food Commissioner a license fee of one dollar for each license so granted, which license must be obtained on or before the first day of July of each year. The moneys received by the Dairy and Food Commissioner, in payment of such licenses, shall be paid into the State Treasury and be used to help defray the expense of the office of the Dairy and Food Commissioner in addition to the annual appropriation. All licenses shall be used only in the name of the owner of the wagon, depot or store, and shall, for the purpose of this act, be prima facie evidence of ownership. No license shall be sold, assigned or transferred. Each license shall record the name, residence, place of business, number of wagons, depots or stores used (where more than one is employed) and the number of the license. Whoever violates any of the provisions of this section, insofar as relates to registration and the securing of licenses, shall be deemed guilty of a misdemeanor, and for each and every offense shall be punished by a fine not less than five dollars, nor more than twenty-five dollars and the costs of prosecution, or by imprisonment in the county jail for not more than thirty days, or both.

[Added by Act No. 12, P. A. 1905.]

18. SEC. 18. Any manufacturer, company, person or persons who shall sell, offer or expose for sale or for distribution, in this State, any concentrated commercial feeding stuff used for feeding live stock, shall furnish with each car, or other amounts shipped in bulk, and shall affix to every package of such feeding stuff, in a conspicuous place, on the outside thereof, a plainly printed statement, clearly and truly certifying the number of net pounds in the car or package sold or offered for sale, the name or trade-mark under which the article is sold, the name of the manufacturer or shipper, the place of manufacture, the place of business, and a chemical analysis, stating the percentages it contains of crude protein, crude fiber, nitrogen-free extract and ether extract, all constituents to be determined by the methods adopted by the association of official agricultural chemists. Whenever any feeding stuff is sold at retail, in bulk or in packages belonging to the purchaser, the agent or dealer shall furnish to him a certified copy of the chemical analysis named in this section.

(a) The term concentrated commercial feeding stuffs as used in this act shall include linseed meal, cotton seed meal, pea meals, cocoanut meals, gluten meals, oil meals of all kinds, gluten feeds, maize feeds, starch feeds, mixed sugar feeds, hominy feeds, rice meals, oat feeds, corn and oat feeds, meat meals, dried blood, clover meals, mixed feeds of all kinds, slaughter house waste products; also all condimental stock

foods, patented and proprietary stock foods, claimed to possess nutritive properties and all other materials intended for feeding to domestic animals: Provided, That such feeding stuffs, as defined above, shall not include hays, straws, fodders, ensilage, the whole seeds nor the unmixed meals made directly from the entire grains of wheat, rye, barley, oats, flaxseed, maize, buckwheat, wet brewers' grains, malt sprouts, wet or dried beet pulp when unmixed with other materials. Neither shall it include wheat, rye and buckwheat brans or middlings not mixed with other substances, but sold separately as distinct articles of commerce, nor pure grains ground together.

(b) Before any manufacturer, company, person or persons shall sell, offer or expose for sale in this State any concentrated commercial feeding stuff, he or they shall, for each and every feeding stuff bearing a distinguishing name or trade-mark, file annually, with the Dairy and Food Commissioner a certified copy of the chemical analysis and certificate referred to in this section, and shall deposit with said Dairy and Food Commissioner a sealed glass jar, or bottle, containing at least one pound of the feeding stuff to be sold or offered for sale, together with an affidavit that it is a fair sample of the article thus to be sold or offered for sale. He or they shall also pay annually into the State Treasury a license fee of twenty dollars for each and every brand of feeding stuff he offers or exposes for sale in this State. Said fee is to be paid on or before April first of each year: Provided, That whenever the manufacturer or importer shall have paid his license fee, his agents shall not be required to do so. Whenever any manufacturer, importer, agent or seller of any commercial feeding stuff desires at any time to sell such material and has not paid the license fee therefor, he shall pay the license fee prescribed in this section, before making any such sale. The money collected under the provisions of this act shall be paid into the State Treasury and be used to help defray the expenses of the office of the Dairy and Food Commissioner, in addition to the regular appropriation therefor.

(c) Whenever the manufacturer, importer, agent or seller of any commercial feeding stuff shall have complied with the requirements of this section, the Dairy and Food Commissioner shall issue or cause to be issued, a license, permitting the sale of said feeding stuff, which license shall terminate on April first following the date of issue.

(d) All such analysis of commercial feeding stuffs required by this act, shall be made under the direction of the Dairy and Food Commissioner, and shall be paid out of the funds arising from the license fees provided for in this section.

(e) The Dairy and Food Commissioner shall publish, or cause to be published in bulletin form, at least annually a correct statement of all analyses made, together with any incidental information concerning same which he may deem proper.

(f) Any manufacturer, importer, company, agent, person or persons, who shall sell, offer or expose for sale, without first complying with the provisions of this act, any commercial feeding stuff, or shall attach or cause to be attached to any car, package or other quantity of said feeding stuff, an analysis stating that it contains a larger percentage of any one or more of the constituents named in this section than it really does con-

tain, shall, upon conviction thereof, be fined not less than one hundred dollars for the first offense, and not less than three hundred dollars for every subsequent offense, and the offender shall also be liable for damages sustained by the purchaser of such feeding stuff on account of such misrepresentation.

(g) The Dairy and Food Commissioner, by any duly authorized agent, is hereby authorized to select from any package of commercial or other feeding stuff exposed or offered for sale in this State, a quantity not exceeding two pounds for a sample, such sample to be used for the purposes of an official analysis and for comparison with the certificate filed with the Dairy and Food Commissioner, and with the certificate affixed to the package on sale.

[Added by Act No. 12, P. A. 1905.]

19. SEC. 19. The published annual report of the Dairy and Food Commissioner which shall be made to the Governor, shall include a complete accounting of all moneys received by the department from every source, and the amount expended by the department.

[Added by Act No. 12, P. A. 1905.]

20. SEC. 20. All acts and parts of acts inconsistent with this act so far as they are inconsistent are hereby repealed.

This act is ordered to take immediate effect.

[Added by Act No. 12, P. A. 1905.]

(Act No. 167, Public Acts, 1899.)

AN ACT in relation to the powers and duties of the Dairy and Food Commissioner of the State of Michigan.

The People of the State of Michigan enact:

21. SECTION 1. That any person who shall obstruct the Dairy and Food Commissioner, or his deputy, or any of his duly appointed inspectors, by refusing to allow him entrance to any place where he is authorized to enter in the discharge of his official duty, or refuses to deliver to him a sufficient sample for the analysis of any article of food or drink sold, offered or exposed for sale, or in his possession for the purpose of sale, wherever the same may be found, when the same is requested and when the value thereof is tendered, shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars and the costs of prosecution, or by imprisonment in the county jail not less than ten days or more than ninety days, or by both such fine and imprisonment in the discretion of the court, for each and every offense.

This act is ordered to take immediate effect.

STANDARDS.

(Act No. 64, Public Acts, 1913.)

AN ACT to define and fix standards of purity for foods, beverages, condiments, confectionery and drugs in this state in prosecutions arising under the food, beverage and drug laws of the state of Michigan.

The People of the State of Michigan enact:

22. SECTION 1. In all prosecutions arising under the food and drug laws of this State for the manufacture or sale of an adulterated, misbranded or otherwise unlawful article of food, drink, condiment or drug, the latest standards of purity for food products, established by the United States secretary of agriculture, shall be accepted as the legal standards, except in cases where other standards are specifically prescribed by the laws of this State.

GENERAL FOOD LAWS.

(Act No. 193, Public Acts, 1895.)

AN ACT to prohibit and prevent adulteration, fraud and deception in the manufacture, and sale of articles of food and drink.

The People of the State of Michigan enact:

23. (C. L., 5010) SECTION 1. No person, firm or corporation by themselves or their agents or servants shall within this State, have in their possession with intent to sell, or offer or expose for sale, or sell any article of food which is adulterated or misbranded within the meaning of this act.

[Am. by Act No. 118, P. A. 1897. Am. by Act No. 162, P. A. 1913.]

24. (C. L., 5011) SEC. 2. The term food as used herein, shall include all articles used for food, drink, confectionery or condiment intended to be eaten or drank by man or other animals, whether simple, mixed or compound.

[Am. by Act No. 162, P. A. 1913.]

25. (C. L., 5012) SEC. 3. An article shall be deemed to be adulterated within the meaning of this act:

First, if any substance or substances have been mixed with it so as to lower or depreciate or injuriously affect its quality, strength or purity;

Second, If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

Third, If any valuable or necessary constituent or ingredient, has been wholly or in part abstracted from it;

Fourth, If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or in the case of milk, if it is the product of a diseased animal;

Fifth, If it is colored, coated, polished, bleached or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is;

Sixth, If it contains any added substance or ingredient which is poisonous or injurious to health: Provided, That nothing in this act shall prevent the coloring of pure butter.

SEC. 3. (a). Any article shall be deemed to be misbranded within the meaning of this act:

First, If it is an imitation of or is offered for sale under the name of another article;

Second, If it is labeled or branded so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or if the contents of the package as originally put up shall have been removed in whole or in part and other contents shall have been placed in such package;

Third, If in package form every package, box, bottle, basket or other container does not bear the true net weight, excluding the wrapper or container, which shall be stated in terms of pounds, ounces and grains avoirdupois weight or the true net measure, which measure, in case of liquids, shall be in terms of gallons of two hundred and thirty-one cubic inches or fractions thereof, as quarts, pints and ounces or the true numerical count, as the case may be, expressed on the face of the principal label in plain English words or numerals, so that it can be plainly read: Provided, however, That reasonable variations shall be permitted and tolerances therefor and also exemptions as to small packages shall be established and promulgated by the Dairy and Food Commissioner; Provided, however, That no penalty of fine, imprisonment or confiscation shall be enforced for any violation of subdivision third of this section prior to September 1, 1914, as to goods in the hands of wholesalers or retailers when this act takes effect or received prior to January 1, 1914. The provisions of this subdivision shall not apply to beverages in glass containers;

Fourth, If the package containing it or its label shall bear any statement, design or device regarding the ingredients or the substances contained therein, which statement, design or device shall be false or misleading in any particular: Provided, That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale bear the name and address of the manufacturer or jobber or retail merchant with an established business, and be distinctly labeled under its own distinctive name, and in a manner so as to plainly and correctly show that it is a mixture or compound and is not in violation of any of the foregoing provisions of this act. Every article of food as defined in the statutes of this State shall be sold by weight, measure or numerical count and as now generally recognized by trade custom, except where the parties otherwise agree, and shall be labeled in accordance with the provisions of the food and beverage laws of this State. Only those products shall be sold by numerical count which cannot

well be sold by weight or measure. All foods not liquid, if sold by measure, shall be sold by standard dry measure, the quart of which contains sixty-seven twenty-one-hundredths cubic inches.

[Am. by Act No. 118, P. A. 1897. Am. by Act No. 162, P. A. 1913.]

26. (C. L., 5013) SEC. 4. No person, by himself or his agents or servants, shall manufacture for sale or offer or expose for sale, or sell, as butter, and the legitimate product of the dairy or creamery, any article not made exclusively of milk or cream, but into which the oil or fat of animals, or any other oils not produced from milk, enters as a component part, has been introduced to take the place of cream. Whoever violates the provisions of this section shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail, or the State House of Correction and Reformatory at Ionia, for not less than ninety days nor more than two years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

27. SEC. 5. No person shall manufacture, deal in, sell, offer or expose for sale or exchange, any article or substance in the semblance of, or in imitation of cheese made exclusively of unadulterated milk or cream, or both, into which any animal, intestinal or offal fats or oils or melted butter in any condition or state, or modification of the same, or oleaginous substances of any kind not produced from unadulterated milk or cream shall have been introduced. All cheese manufactured or sold within this State shall be divided into two grades, to be known as "full cream cheese" and "skimmed milk cheese." All full cream cheese shall contain in water free substance not less than thirty per centum of milk fat, as may appear upon proper test, and all cheese containing less than thirty per centum of milk fat shall be known and branded as "skimmed milk cheese." Provided, That the provisions of this act shall not be construed to apply to such cheese as is known as "fancy cheese" and is under five pounds in weight each, nor to what is known as "Swiss cheese," "brick cheese," "Dutch cheese" or "cottage cheese," and does not contain anything injurious to health.

[Am. by Act No. 73, P. A. 1913.]

28. SEC. 6. Every manufacturer of full cream cheese may put a brand upon each cheese, indicating "full cream cheese," and no person shall use such a brand upon any cheese made from milk from which any of the cream has been taken. Every manufacturer of imitation cheese, as defined by this act, shall put a brand upon each cheese so manufactured, indicating "skimmed milk cheese," which brand shall be in plain Roman letters, not less than one-half inch in length, and so made, placed or attached that it can easily be seen and read and cannot be easily defaced, and the same shall be placed upon the cloth surrounding such cheese, as well as upon the container thereof.

[Am. by Act No. 118, P. A. 1897. Am. by Act No. 73, P. A. 1913.]

29. SEC. 7. The Dairy and Food Commissioner shall procure and issue to the cheese manufacturers of the State, on proper application,

which application shall be made on or before the first day of April in each year, and under such regulation as to the custody and use thereof as he may prescribe, a uniform stencil brand, bearing a suitable device or motto and the words "Michigan full cream cheese," or "Michigan skimmed milk cheese." Every such brand shall be used on the outside of the cheese, and upon the package containing the same, and shall bear a separate number for each separate factory. The said commissioner shall keep a book in which shall be registered the name, location and number of each manufactory using the brand, and the name or names of persons at each factory authorized to use the same. The commissioner shall receive a fee of one dollar for each registration, said fee to be paid by the party applying for the same, which amount shall be accounted for and used as a part of the fund appropriated for the enforcement of the laws of this state with which the Dairy and Food Commissioner is charged. No person shall knowingly offer, sell or expose for sale, in any package, cheese which is falsely branded or labeled. Whoever shall violate the provisions of sections five, six, seven or eight of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty nor more than five hundred dollars and the costs of prosecution, or by imprisonment in the county jail or the Michigan Reformatory at Ionia for not less than ninety days nor more than two years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

[Am. by Act No. 73, P. A. 1913.]

30. SEC. 8. The proprietor or keeper of any hotel, restaurant, eating saloon, boarding house or other place where imitation cheese is sold or furnished to persons paying for the same shall have placed on the walls of every store or room where imitation cheese is sold or furnished, a white placard on which is printed in black ink, in plain Roman letters of not less than three inches in length, and not less than two inches in width, the words "Skimmed Milk Cheese Sold or Used Here," and shall at all times keep the same exposed in such conspicuous place as to be readily seen by any and all persons entering such store, or other room or rooms, and any person or persons violating this section shall be deemed guilty of a misdemeanor, and punished as provided in section seven of this act.

[Am. by Act No. 73, P. A. 1913.]

31. (C. L., 5018) SEC. 9. No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell as lard, any substance not the legitimate and exclusive product of the fat of the hog.

32. (C. L., 5019) SEC. 10. Every person who manufactures for sale, has it in his possession with intent to sell, offers or exposes for sale, or sells, any substance made in the semblance of lard, or as an imitation of lard, and which consists of any mixture or compound of animal or vegetable oils or fats other than hog fat, in the form of lard, shall cause the tierce, barrel, tub, pail or package containing the same to be distinctly and legibly branded or labeled "Lard substitute or compound,"

and every person who manufactures for sale, has in his possession with intent to sell, offers or exposes for sale or sells, any substance made in the semblance of lard or as an imitation of lard, or as a substitute for lard, and which is designed to take the place of lard, and which consists of any mixture or compound of lard with animal or vegetable oils or fats, shall cause the tierce, barrel, tub, pail or package containing the same to be distinctly and legibly branded or labeled either "Adulterated lard," "Lard compound," or "Lard substitute." Such brands or labels shall be in letters not less than one inch in length and shall be followed with the name of the maker and factory, and the location of such factory.

33. (C. L., 5020) SEC. 11. Every dealer or trader who, by himself or agent, or as the servant or agent of another person, offers or exposes for sale, or sells any form of lard substitute or adulterated lard, as hereinbefore defined, shall securely affix or cause to be affixed to the package wherein the same is contained, offered for sale or sold, a label upon the outside and face of which is distinctly and legibly printed in letters not less than one-half inch in length, the words "Lard substitute" or "Adulterated lard" or "Lard compound" or other appropriate word which shall correctly express its nature and use.

34. (C. L., 5021) SEC. 12. The having in possession of any lard substitute or adulterated lard or lard compound, as hereinbefore defined, which is not branded or labeled as hereinbefore required and directed, upon the part of any dealer or trader, or any person engaged in the public sale of such articles, shall for the purpose of the act be deemed prima facie evidence of intent to sell the same.

35. (C. L., 5022) SEC. 13. No person, firm or corporation in this State shall manufacture for sale, or sell, or offer or expose for sale, as fruit jelly or fruit butter, any jelly or imitation fruit butter or other, similar compound made or composed in whole or in part of glucose, dextrine, starch or other substances, and colored in imitation of fruit jelly or fruit butter; nor shall any such jelly, fruit butter or compound be manufactured or sold, or offered for sale, under any name or designation whatever, unless the same shall be composed entirely of ingredients not injurious to health, and shall not be colored in imitation of fruit jelly, and every can, pail or package of such jelly or butter sold in this State shall be distinctly and durably labeled "Imitation fruit, jelly or butter," with the name of the manufacturer and the place where made. Whoever violates the provisions of this section shall be deemed guilty of a misdemeanor, and when convicted thereof shall be punished by a fine of not less than fifty nor more than five hundred dollars, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia for not less than ninety days nor more than two years, or by both such fine and imprisonment in the discretion of the court.

36. (C. L., 5023) SEC. 14. No packer or dealer in preserved or canned fruits and vegetables, or other articles of food, shall sell or offer for sale such canned articles, unless such articles shall be entirely free from substances or ingredients deleterious to health, and unless such articles bear a mark, stamp, brand or label bearing the name and address of the firm, person or corporation that packs the same. All "Soaked or bleached goods," or goods put up from products dried before

canning, shall be plainly marked, branded, stamped or labeled as such, with the words "Soaked or bleached goods" in letters not less than two-line pica in size, showing the name of the article and the name and address of the packer.

37. (C. L., 5024) SEC. 15. No person shall manufacture or sell, or offer for sale any manufactured or artificial coffee berry in imitation of the genuine berry. No person shall manufacture, sell or offer or expose for sale any ground or prepared coffee, which is adulterated with chicory or other substance not injurious to health, unless each package thereof shall be distinctly labeled or marked "Coffee compound," together with the name and address of the manufacturer or compounder thereof, and has no other label of whatever name or designation. No person shall offer or expose for sale, have in his possession with intent to sell, or sell any molasses, syrup or glucose, unless the barrel, cask, keg, can or pail containing the same shall be distinctly branded or labeled with the true and appropriate name; nor shall any person offer or expose for sale, have in his possession with intent to sell, or sell any molasses or syrup mixed with glucose, unless the barrel, cask, keg or pail containing the same be distinctly branded or labeled "Glucose mixture," and the per cent in which glucose enters into its composition. Such barrel, cask, keg or pail shall be branded or labeled in a conspicuous place; and such brands or labels shall be in letters of not less than one-half inch in length. Glucose and glucose mixtures shall have no other designation than herein required.

[Am. by Act No. 118, P. A. 1897.]

38. (C. L., 5025) SEC. 16. No person shall within this State manufacture, brew, distill, have or offer for sale, or sell, any spiritous or fermented or malt liquors, containing any substance or ingredient not normal or healthful, to exist in spirituous, fermented or malt liquors, or which may be deleterious or detrimental to health when such liquors are used as a beverage.

39. (C. L., 5026) SEC. 17. The taking of orders or the making of agreements or contracts, by any person, firm or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of this act, shall be deemed a sale within the meaning of this act.

40. (C. L., 5027) SEC. 18. Whoever shall falsely brand, mark, stencil or label any article or product required by this act to be branded, marked, stenciled, or labeled, or shall remove, alter, deface, mutilate, obliterate, imitate or counterfeit any brand, mark, stencil or label so required, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than one hundred nor more than one thousand dollars and the costs of prosecution or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia, for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

41. (C. L., 5028) SEC. 19. Whoever shall do any of the acts or things prohibited, or wilfully neglect or refuse to do any of the acts or

things enjoined in this act, or in any way violate any of its provisions, shall be deemed guilty of a misdemeanor, and where no specific penalty is prescribed by this act shall be punished by a fine of not less than twenty-five nor more than five hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

[Am. by Act No. 117, P. A. 1899.]

42. (C. L., 5029) SEC. 20. It shall be the duty of the Dairy and Food Commissioner of the State to investigate all complaints of violations of this act, and take all steps necessary to its enforcement. It shall be the duty of all prosecuting officers of this State to prosecute to completion all suits brought under the provisions of this act upon the complaint of the commissioner or of any citizen. It shall be the duty of all food inspectors in cities to examine all complaints made to them of violation of this act, and to render assistance in enforcing its provisions. It shall also be the duty of all health boards in cities and health officers in townships to take cognizance of and report or prosecute all violations of this act that may be brought to their notice, or they may have cognizance of, within their jurisdiction.

43. SEC. 21. All acts and parts of acts inconsistent with this act are hereby repealed.

BUCKWHEAT FLOUR.

(Act. No. 208, Public Acts, 1903.)

AN ACT in relation to the manufacture and sale of buckwheat flour.

The People of the State of Michigan enact:

44. SECTION 1. Within this State no person shall manufacture, offer or expose for sale, keep in possession with intent to sell, or sell, any ground buckwheat containing any product of wheat, corn, rice or other foreign substance, unless each and every package thereof be distinctly and legibly branded or labeled "Buckwheat Flour Compound" in letters not less than one-half inch in length and be followed with the name of the maker and factory and the location of such factory.

45. SEC. 2. Any brand or label herein required shall be an inseparable part of the general or distinguishing label, and such label shall be that principal and conspicuous sign under which it is sold, and any other label or printed matter upon the package shall not be in contravention of the requirements of this act.

46. SEC. 3. The having in possession of any buckwheat flour compound, which is not branded or labeled as hereinbefore required and directed upon the part of any person engaged in the public or private sale of such article, shall for the purpose of this act, be deemed prima facie evidence of intent to sell the same.

47. SEC. 4. The taking of orders or the making of agreements or contracts by any person, firm or corporation or by any agent or representative thereof, for the future delivery of buckwheat flour compound shall be deemed a sale within the meaning of this act.

48. SEC. 5. Whoever shall do any of the acts or things prohibited, or neglect or refuse to do any of the acts or things enjoined by this act, or in any way violate any of the provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail for a period of not less than thirty nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

49. SEC. 6. Act number eighty-four of the Public Acts of eighteen hundred ninety-seven, entitled "An act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of buckwheat flour," being section four thousand nine hundred ninety-four to five thousand two, both inclusive, of the Compiled Laws of one thousand eight hundred ninety-seven is hereby repealed.

VINEGAR.

Act No. 384, Session Laws 1913.

AN ACT in relation to the manufacture and sale of vinegar, and to repeal act number seventy-one of the Public Acts of eighteen hundred ninety-seven, being sections five thousand three to five thousand six inclusive of the Compiled Laws of eighteen hundred ninety-seven, and all other acts and parts of acts inconsistent with this act.

The People of the State of Michigan enact:

50. SECTION 1. No person shall manufacture for sale, offer or expose for sale, sell or deliver, or have in his possession with intent to deliver, any vinegar not in compliance with the provisions of this act.

51. SEC. 2. The word "vinegar" as used herein is limited to a water solution of acetic acid derived by the alcoholic and subsequent acetous fermentations of fruits, grain, vegetables, sugar or syrups, and if not distilled must carry in solution the extractive matter derived solely from the substances indicated on the label as its source.

52. SEC. 3. No vinegar shall be sold or exposed for sale as apple or cider vinegar which is not the legitimate product of pure apple juice. The term "cider vinegar" as used herein shall be construed to mean vinegar derived by the alcoholic and subsequent acetous fermentation of the expressed juice of apples, the acidity, solids and ash of which have been derived exclusively from apples, and which contains not less than four per cent of absolute acetic acid. Cider vinegar which during the course of manufacture has developed in excess of four per cent acetic acid, may be reduced to a strength of not less than four per

cent, and cider vinegar so reduced shall not be regarded as adulterated. Every manufacturer or producer of cider vinegar shall plainly brand on the head of the cask, barrel or keg or other container of such vinegar, his name place of business and the words "fermented cider vinegar," and no person shall mark or brand as cider vinegar any package containing that which is not cider vinegar. Any vinegar sold or offered for sale shall be marked or branded plainly upon the package or container from which it is sold and also on the original package or container in which it is sold or delivered, in a manner to show its true character and source.

53. SEC. 4. All sugar vinegar sold or exposed for sale as such shall be strictly and distinctly fermented from sucrose, molasses or refiner's syrup.

54. SEC. 5. No vinegar shall be sold or exposed for sale as malt vinegar which is not fermented strictly and distinctly from barley, malt, or cereals whose starch has been converted to malt.

55. SEC. 6. No vinegar shall be sold or exposed for sale in which foreign substances, drugs or acids shall have been introduced. No vinegar shall contain any artificial coloring matter, and all vinegar shall have an acidity of not less than four per cent by weight of absolute acetic acid. If vinegar contains any artificial matter, or less than the required amount of acidity, it shall be deemed to be adulterated.

56. SEC. 7. All vinegar made by fermentation and oxidation without the intervention of distillation, shall be branded "fermented" vinegar, with the name of the fruit or substance from which such vinegar has been made.

57. SEC. 8. All vinegar made by acetous fermentation of dilute distilled alcohol shall be branded "distilled" vinegar, together with the name of the substance or substances from which it is made, and all vinegar made wholly or in part from distilled vinegar shall be conspicuously labeled "distilled vinegar."

58. SEC. 9. Whoever violates any of the provisions of this act shall, upon conviction, be punished by a fine of not more than two hundred dollars or imprisonment in the county jail not to exceed six months or both such fine and imprisonment in the discretion of the court.

59. SEC. 10. Act number seventy-one of the Public Acts of eighteen hundred ninety-seven, being sections five thousand three to five thousand six of the Compiled Laws of eighteen hundred ninety-seven, and all other acts and parts of acts inconsistent with this act are hereby repealed.

MILK.

(Act No. 26, Public Acts, 1873.)

AN ACT to prevent and punish offenders for the adulteration of milk, and the products made therefrom, and to repeal an act entitled "An act to prevent the adulteration of milk and to prevent the traffic in impure and unwholesome milk," approved March thirty-first, eighteen hundred and seventy-one.

The People of the State of Michigan enact:

60. (C. L., 11411) SECTION 1. That whoever shall knowingly sell to any person or persons, or sell, deliver, or bring to be manufactured to any cheese or butter manufactory in this State, any milk diluted with water, or in any way adulterated, or milk from which any cream has been taken, or milk commonly known as "skimmed milk," or shall keep back any part of the milk known as "strippings," with intent to defraud, or shall knowingly sell milk, the product of a sick or diseased animal or animals, or any milk produced from any cow fed upon the refuse of a distillery, or of a brewery, or upon any substance deleterious to the quality of the milk, or shall knowingly use any poisonous or any deleterious material in the manufacture of any cheese or butter, or shall knowingly sell or offer to sell any cheese or butter, in the manufacture of which any poisonous or deleterious substance has been used, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be fined not less than ten dollars nor more than one hundred dollars, and may be committed to the county jail until such fine shall be paid: Provided, That such imprisonment shall not exceed ninety days; and shall be liable in double the amount of damages to the person or persons, firm, association, or corporation upon which such fraud shall have been committed. An act entitled "An act to prevent the adulteration of milk and to prevent the traffic in impure and unwholesome milk," approved March thirty-first, eighteen hundred and seventy-one, is hereby repealed: Provided, That any right accrued or forfeiture incurred under said act, shall remain valid and binding, and may be enforced under said act as if the same were not repealed.

(Act No. 246, Public Acts, 1887.)

AN ACT to prevent the sale of impure, unwholesome, adulterated, or swill milk in the State of Michigan, and to provide for inspectors.

The People of the State of Michigan enact:

61. (C. L., 11412) SECTION 1. That it shall be unlawful for any person, either by himself or agent, to sell or expose for sale within the State of Michigan any unwholesome watered, or adulterated or impure milk

or swill milk or colostrum or milk from cows kept upon garbage, swill or any substance in a state of fermentation or putrefaction or other deleterious substances or from cows kept in connection with any family in which there are infectious diseases. The addition of water or ice to milk is hereby declared an adulteration.

[Am. by Act No. 219, P. A. 1889.]

62 (C. L., 11413) SEC. 2. Any person who shall violate any of the provisions of the preceding section shall be punished by a fine not to exceed one hundred dollars or (by) imprisonment not to exceed three months or by both such fine and imprisonment in the discretion of the court.

63. (C. L., 11414) SEC. 3. It shall be the duty of the metropolitan police commissioners of the city of Detroit, by and with the consent and advice of the board of health of the city of Detroit, to appoint an inspector, who shall be a person of previous practical experience. Said inspector may be created captain, sergeant or roundsman of the said police force of the city of Detroit, at the option of the board of metropolitan police commissioners.

64. (C. L., 11415) SEC. 4. It shall be the duty of said inspector to personally view, so far as possible, all milk exposed for sale in said city, and to visit all dairy houses, barns or stables in said city or the county of Wayne, to inspect the same, and the animals held therein, and to visit all places where milk is kept or exposed for sale in the city of Detroit, and to inspect and ascertain the condition of said milk. He may detail any patrolman of said city to assist him in the performance of any or all of the duties enjoined on him by this act: Provided, always, That said inspector and any policeman so detailed shall always be subject to the provisions of the law establishing and governing the metropolitan police of said city.

65. (C. L., 11416) SEC. 5. It shall be the duty of said inspector or of his assistant, and of all other inspectors appointed under this act, to make complaint in writing before a police justice or justice of the peace, or other court having jurisdiction thereof, of every violation of this act coming to his knowledge.

[Am. by Act No. 219, P. A. 1889.]

66. (C. L., 11417) SEC. 6. Each and every quantity of milk sold or exposed for sale contrary to the provisions of this act, shall constitute a separate offense.

67. (C. L., 11418) SEC. 7. Any person who shall refuse to permit the said inspector, or his assistant (assistants) to perform his duty under this act, either by refusing him entrance to his premises or by concealing any milk, or refusing to permit any milk or animal or premises wherein animals are kept, to be viewed and inspected as herein provided, or by in any manner hindering or resisting any said inspector or assistant inspector in the performance of his duty, shall be guilty of a misdemeanor, and punished therefor.

68. (C. L., 11419) SEC. 8. Authority is hereby given the common council of any city, and the board of trustees or council of any village, to appoint an inspector of milk in any such city or village, and to fix

their compensation, and when appointed the said inspectors of milk shall have all the powers given by section four of this act, and shall perform all the duties required of inspectors of milk as provided herein, and such other powers and duties as may be conferred or imposed by the ordinances of said cities or villages.

69. (C. L., 11420) SEC. 9. Whoever shall adulterate by himself or by his servant or agent, or sell, exchange or deliver, or have in his custody or possession with intent to sell or exchange the same, or exposes or offers for sale or exchange, adulterated milk or milk to which water or any foreign (substance) substances in any state of fermentation or putrefaction, or from sick or diseased cows, shall be guilty of a misdemeanor, and shall, for every such offense, be punished by a fine not exceeding one hundred dollars or by imprisonment in the county jail or the State House of Correction and Reformatory at Ionia not exceeding three months.

[Added by Act No. 219, P. A. 1889.]

70. (C. L., 11421) SEC. 10. Whoever shall adulterate, himself or by his servant or agent, sell, exchange or deliver, or have in his custody or possession with intent to sell or exchange the same, or exposes or offers for sale as pure milk, any skimmed milk from which the cream or any part thereof has been removed shall be guilty of a misdemeanor, and shall for such offense, be punished by the penalty provided in the preceding section.

[Added by Act No. 219, P. A. 1889.]

71. (C. L., 11422) SEC. 11. Any dealer in milk who shall by himself, servant or agent, sell, exchange or deliver, or have in his custody or possession with intent to sell, exchange or deliver the same, milk from which the cream or any part thereof has been removed, unless in a conspicuous place above the center upon the outside of every vessel, can or package from which any such milk is sold, the words "Skimmed milk" are distinctly painted in letters not less than one inch in length, shall be guilty of a misdemeanor and shall be punished by a fine not exceeding one hundred dollars or by imprisonment in the county jail or Detroit House of Correction not exceeding three months.

[Added by Act No. 219, P. A. 1889.]

72. (C. L., 11423) SEC. 12. If the milk sold or offered for sale under the provisions of this act as pure milk, is shown upon analysis by weight to contain more than eighty-seven and fifty one-hundredths per centum of watery fluid, or to contain less than twelve and fifty one-hundredths of milk solids per centum, or less fat than three per centum, or if the specific gravity at 60 degrees Fahrenheit is not between 1 29-1000 to 1 33-1000, it shall be deemed to be adulterated. If milk sold or offered for sale under the provisions of this act as skimmed milk has a specific gravity at 60 degrees Fahrenheit less than 1.032 and greater than 1.037, it shall be deemed to be adulterated.

[Added by Act No. 219, P. A. 1889.]

73. (C. L., 11424) SEC. 13. Whenever any inspector of milk has reason to believe that any milk found by him is adulterated, he shall take specimens thereof and test the same with such instrument or instruments as are used for such purposes, and he shall make an analysis thereof, showing total solids, the percentage of butter, the percentage of water and the percentage of ash; and if the result of such test and analysis indicates that the milk has been adulterated or deprived of its cream or any part thereof, the same shall be prima facie evidence of such adulteration in a prosecution under this act.

[Added by Act No. 219, P. A. 1889.]

74. (C. L., 11425) SEC. 14. Any person who shall remove the cream or any part thereof from milk to be sold as pure milk to any manufactory in which milk is used as a material in the process of production, and any person who shall, in any manner, adulterate such milk, either by the addition of water or otherwise, shall be guilty of a misdemeanor, and shall, for every such offense, be punished by a fine not exceeding one hundred dollars, or by imprisonment in the county jail or Detroit House of Correction not exceeding ninety days.

[Added by Act No. 219, P. A. 1889.]

(Act No. 106, Public Acts, 1899.)

AN ACT in relation to the sale and delivery of milk.

The People of the State of Michigan enact:

75. SECTION 1. No person shall offer or expose for sale, sell, exchange or deliver, or have in his possession with intent to sell, exchange or deliver, any milk to which water, chemicals or preservatives, or any other foreign substance has been added. The term milk as used in this act shall include all skimmed milk, buttermilk, cream and milk in its natural state as drawn from the cow.

76. SEC. 2. Whoever shall do any of the acts or things prohibited, or neglects or refuses to do any of the acts or things enjoined by this act, or in any way violates any of its provisions, shall be deemed guilty of a misdemeanor and shall be punished by a fine of not less than one dollar nor more than one hundred dollars and the costs of prosecution, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment in the discretion of the court.

This act is ordered to take immediate effect.

INSANITARY MILK AND CREAM.

(Act No. 222, Session Laws 1913.)

AN ACT to prevent and punish the sale of unclean and insanitary cream and milk and the use thereof in the manufacture of food products and to prohibit unclean and insanitary conditions of creameries, cheese factories, ice cream factories and milk dealers' establishments or out-fits and fixing standards of sanitary milk and cream, and to regulate the sale and transportation of the same.

The People of the State of Michigan enact:

77. SECTION 1. For the purpose of this act, the term "milk" shall mean the fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within eight days before and four days after calving, and contains not less than eight and one-half per cent of solids not fat, and not less than three per cent of milk fat; and the term "cream" shall mean that portion of milk, rich in milk fat, which rises to the surface of milk on standing, or is separated from it by centrifugal force, is fresh and clean, and contains not less than eighteen per cent of milk fat. Milk which shall be drawn from cows that are kept in barns or stables which are not reasonably well lighted and ventilated, or that are kept in barns or stables that are filthy from an accumulation of animal feces and excreta or from any other cause, or milk which shall be drawn from cows which are themselves in a filthy condition; or milk kept or transported in dirty, rusty or opened-seamed cans or other utensils; or milk that is stale, putrescent, or putrid; or milk to which has been added any unclean, or unwholesome foreign substance; or milk which has been kept exposed to foul or noxious air or gases in barns occupied by animals, or kept exposed in dirty, foul or unclean places or conditions, is hereby declared to be insanitary milk. Cream produced from any such aforesaid insanitary milk; or cream produced by the use of a cream separator, which separator had not been thoroughly washed, cleansed and scalded after previous use in the separation of cream from milk; or cream produced by the use of a cream separator placed or stationed in any unclean or filthy room or place or in any building containing a stable wherein are kept cattle or other animals, unless such cream separator is so separated and shielded by a partition from the stable portion of such building as to be free from all foul or noxious air or gases which issue or may issue from such place or stable; or cream that is stale, putrescent, or putrid; or cream that is kept or transported in dirty, rusty or open-seamed cans or other utensils; or cream which has been kept exposed to foul or noxious air or gases in barns occupied by animals, or in dirty, foul or unclean places or conditions, is hereby declared to be insanitary cream.

78. SEC. 2. No person shall by himself, his servant or agent, or as the servant or agent of any other person, or as the officer, servant or agent of any firm or corporation, sell, or offer for sale, furnish or deliver, or have in possession or under his control with intent to sell or offer for sale, or furnish, or deliver to any person, firm or corporation

as food for man, or to any creamery, cheese factory, milk condensing factory, or milk or cream dealer, any insanitary milk or any insanitary cream.

79. SEC. 3. No person shall by himself, his servant or agent, or as the servant or agent of any other person, or as the servant or agent of any firm or corporation, manufacture for sale any article of food for man from any insanitary milk or from any insanitary cream.

80. SEC. 4. All premises and utensils used in the handling of milk, cream, and by-products of milk, and all premises and utensils used in the preparation, manufacture, or sale, or offering for sale of any food product for man from milk or cream or the by-products of milk, which shall be kept in an unclean, filthy or noxious condition are hereby declared to be insanitary. It shall be unlawful for any person, firm, or corporation engaged in selling, or furnishing milk, cream, or any by-products of milk, intended for use as food for man; and it shall be unlawful for any person, firm or corporation engaged in selling or furnishing milk, cream, or any by-products of milk, to any creamery, cheese factory, milk condensing factory, or to any place where such milk, cream, or by-products of milk are manufactured or prepared into a food product for man, and for sale as such; and it shall be unlawful for any milk dealer, or an employee of such milk dealer, or any person, firm or corporation, or the employ of such person, firm, or corporation, who operates a creamery, cheese factory, milk condensing factory, or who manufactures or prepares for sale any article of food for man from milk, cream, or by-product of milk, or who manufactures, re-works, or packs butter for sale as a food product, to maintain his premises and utensils in an insanitary condition.

81. SEC. 5. Any person, firm or corporation, not a common carrier who receives from a common carrier in cans, bottles or other vessels any milk, or cream, ice cream or other dairy product intended as food for man, which has been transported over any railroad or boat line or by other common carrier, when such cans, bottles or vessels are to be returned, shall cause the said cans, bottles, or other vessels to be thoroughly washed and cleansed before return shipment.

82. SEC. 6. Any person who by himself, his servant or agent, or as the servant or agent of any other person, or as the officer, servant or agent of any firm or corporation who violates any provision of this act shall, upon conviction thereof, be punished by a fine of not more than one hundred dollars for each and every offense, or shall be imprisoned in the county jail not more than sixty days.

CONDENSED MILK LAW.

(Act No. 176, Session Laws 1913.)

AN ACT to regulate the sale of condensed milk, and to provide for the labeling thereof so as to prevent fraud and deception.

The People of the State of Michigan enact:

83. SECTION 1. Every container of evaporated, concentrated or condensed whole milk, and every container of evaporated, concentrated or condensed skimmed milk, sold or offered for sale or had in possession or custody with intent to sell by any person, firm or corporation within this State, shall have plainly printed thereon in the English language, or attached thereto on some firmly affixed tag or label, a formula for extending the said evaporated, concentrated or condensed milk and said evaporated, concentrated or condensed skimmed milk, respectively, with water. The formula for the extension of said evaporated, concentrated or condensed whole milk shall be such that the resulting milk product shall not be below the Michigan standard of milk solids or fat for whole milk, and shall be in the following form: By adding parts of water to one part of the contents of this can a resulting milk product will be obtained which will not be below the legal standard for whole milk. The formula for the extension of said evaporated, concentrated or condensed skimmed milk shall be such that the resulting milk product shall not be below the Michigan standard of milk solids for skimmed milk, and shall be in the following form: By adding parts of water to one part of the contents of this can a resulting milk product will be obtained which will not be below the legal standard for skimmed milk.

84. SEC. 2. Whoever, himself or by his servant or agent, or as the servant or agent of any person, firm or corporation, sells, exchanges or delivers, or has in his custody or possession with intent to sell, exchange or deliver any container of evaporated, concentrated or condensed milk within this State, not marked or labeled in compliance with the provisions of this act shall, for the offense, be punished by a fine of not more than one hundred dollars or by imprisonment for not less than three nor more than six months.

85. SEC. 3. The provisions of this act with reference to the labeling of containers of condensed, concentrated and evaporated skimmed milk shall take effect upon the first day of October, in the year nineteen hundred thirteen; the remaining provisions of this act shall take effect upon the first day of January in the year nineteen hundred fourteen.

OLEOMARGARINE.

(Act No. 63, Public Acts, 1913.)

AN ACT to regulate the manufacture, display, advertisement and sale of oleomargarine or imitation butter and to prevent fraud and deception therein and to provide penalties for violations thereof, and to repeal act number one hundred forty-seven of the Public Acts of eighteen hundred ninety-nine, entitled "An act in relation to the manufacture and sale of oleomargarine or imitation butter."

The People of the State of Michigan enact:

86. SECTION 1. No person shall sell, expose or offer for sale or exchange, or have in his possession with intent to sell or exchange, any oleomargarine or other substance made in imitation of butter, and which is intended to be used as a substitute for butter, unless each and every vessel, package, roll or parcel of such substance has distinctly and durably printed, stamped or stenciled thereon in black letters the true name of such substance, in ordinary bold faced capital letters, not less than five line pica in size; and also the name and address of the manufacturer, in ordinary bold faced letters, not less than pica in size.

87. SEC. 2. No person shall sell, exchange or deliver any oleomargarine or other substance made in imitation of butter, and which is intended to be used as a substitute for butter, unless he shall distinctly inform the purchaser by a verbal notice at the time of the sale that the same is a substitute for butter, and shall also deliver to the purchaser of each and every roll, package or parcel of such oleomargarine or other substance, at the time of the delivery of the same, a separate and distinct label, on which is plainly and legibly printed in black ink in ordinary bold faced capital letters not less than five line pica in size, the true name of such substance and also the name and address of the manufacturer, in ordinary bold faced letters not less than pica in size.

88. SEC. 3. The proprietor or keeper of any store, hotel, restaurant, eating saloon, boarding house, or other place where oleomargarine is sold or furnished to persons paying for the same, shall have placed on the walls of every store or room where oleomargarine is sold or furnished, a white placard on which is printed in black ink, in plain Roman letters of not less than three inches in length, and not less than two inches in width, the words "Oleomargarine sold or used here," and shall at all times keep the same exposed in such conspicuous place as to be readily seen by any and all persons entering such store, or other room or rooms.

89. SEC. 4. No person shall use in any way, in connection or association with the sale or exposure for sale or advertisement of any substance designed to be used as a substitute for butter, the word "butter," "creamery," or "dairy," or the name or representation of any breed of dairy cattle, or any combination of such word or words and representation, or any other words or symbols or combination thereof commonly used in the sale of butter.

90. SEC. 5. For the purpose of this act the word "butter" shall be understood to mean the food product usually known as butter, and

which is made exclusively from milk or cream, or both, with or without common salt, and with or without additional coloring matter.

91. SEC. 6. For the purpose of this act certain manufactured substances, certain extracts and certain mixtures and compounds, including such mixtures and compounds with butter, shall be known and designated as "oleomargarine," namely: All substances heretofore known as oleomargarine, oleo, oleomargarine oil, butterine, lardine, suine and neutral; all mixtures and compounds of oleomargarine, oleo, oleomargarine oil, butterine, lardine, suine and neutral; all lard extracts and tallow extracts; and all mixtures and compounds of tallow, beef fat, suet, lard, lard oil, vegetable oil, butterine, lardine, suine and neutral; all lard extracts and tallow extracts; and all mixtures and compounds of tallow, beef fat, suet, lard, lard oil, vegetable oil, intestinal fat, and offal fat, made in imitation or semblance of butter, or when so made, calculated or intended to be sold or used as butter or for butter.

92. SEC. 7. Whoever violates any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine or not less than fifty dollars, nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail or state house of correction and reformatory at Ionia, for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court, for each and every offense. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

93. SEC. 8. Act number one hundred forty-seven of the Public Acts of eighteen hundred ninety-nine, is hereby repealed.

(Act No. 22, Public Acts, 1901.)

AN ACT to prevent deception in the manufacture and sale of imitation butter.

The People of the State of Michigan enact:

94. SECTION 1. No person, by himself or his agents, or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream of the same: Provided, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter.

95. SEC. 2. Whoever violates any of the provisions of section one of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than fifty dollars nor more

than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court, for each and every offense.

RENOVATED BUTTER.

(Act No. 243, Public Acts, 1903, as amended.)

AN ACT in relation to the manufacture and sale of renovated butter.

The People of the State of Michigan enact:

96. SECTION 1. No person, firm or corporation shall manufacture for sale, offer or expose for sale, sell, exchange or deliver, or have in his possession with the intent to sell, exchange or deliver, any butter that is produced by taking original packing stock butter or other butter, or both, melting the same so that the butter fat can be drawn off or extracted, mixing the said butter fat with skimmed milk, or milk or cream, or other milk product, and rechurning or reworking the said mixture; nor shall any person, firm or corporation manufacture for sale, offer or expose for sale, sell, exchange or deliver, or have in his possession for any such purpose any butter which has been subjected to any process by which it is melted, clarified or refined, and made to resemble butter, and is commonly known as boiled process or renovated butter, and which for the purpose of this act is hereby designated as "Renovated Butter," unless the same shall be branded or marked as provided in section two of this act.

97. SEC. 2. Whoever, himself or by his agent or as the servant or agent of another person, shall sell, expose for sale or have in his custody or possession with the intent to sell any renovated butter as defined in section one of this act, shall have the words "Renovated Butter" conspicuously stamped, labeled or marked in one or two lines and in plain Gothic letters, at least three-eighths of an inch square, so that the words cannot easily be defaced, upon two sides of each and every tub, firkin, box or package containing said renovated butter; or if such butter is exposed for sale uncovered, or not in a case or package, a placard containing said words in the same form as above described in this section shall be attached to the mass in such a manner as to be easily seen and read by the purchaser. When renovated butter is sold from such packages or otherwise at retail, in print, roll or other form, before being delivered to the purchaser it shall be wrapped in wrappers plainly stamped on the outside thereof with the words "Renovated Butter" printed or stamped thereon in one or two lines, and in plain Gothic letters at least three-eighths of an inch square, and such wrapper shall contain no other words or printing thereon, and said words "Renovated Butter" so stamped or printed on the said wrapper shall not be in any manner con-

cealed, but shall be in plain view of the purchaser at the time of the purchase: Provided, If at any time the laws of the United States provide that butter manufactured as is described in this act, shall be labeled "Process Butter," then and in such case only shall such substitution be permitted and the labeling of said butter as "Process Butter" shall be deemed a compliance with this act.

[Am. by Act No. 119, P. A. 1909.]

98. SEC. 3. Whoever shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail or Michigan Reformatory at Ionia, for not less than six months nor more than three years, or by both such fine and imprisonment, in the discretion of the court, for each and every offense.

99. SEC. 4. Act number two hundred fifty-four of the Public Acts of eighteen hundred ninety-nine, entitled "An act to regulate the sale of butter produced by taking original packing stock and other butter and melting the same so that the butter oil can be drawn off, mixed with skimmed milk or other material, and by emulsion or other process produce butter, and butter produced by any similar process and commonly known as "process" butter; providing for the enforcement thereof, and punishment for the violation of the same," is hereby repealed.

BUTTER AND CREAM STANDARDS.

(Act No. 244, Public Acts, 1913.)

AN ACT to regulate the sale of butter and cream in the State of Michigan, and to prescribe a penalty for the violation of this act.

The People of the State of Michigan enact:

100. SECTION 1. No person shall offer or expose for sale, have in his possession with intent to sell, or sell as butter any product which contains less than eighty per cent of milk fat, and which is not made exclusively from milk or cream, or both, with or without common salt and with or without additional coloring matter.

101. SEC. 2. No person shall offer or expose for sale, have in his possession with intent to sell, or sell as cream any product which contains less than eighteen per cent of milk fat, and which is not that portion of milk, rich in milk fat, which rises to the surface of milk on standing, or is separated from it by centrifugal force, and which is not clean: Provided, That the provisions of this act shall not be deemed to apply to any person not a manufacturer or producer of butter and cream, who has bought the products mentioned in this act for resale, and when found to be under the standard prescribed by this act, shall furnish information from whom his products were received.

102. SEC. 3. Whoever shall do any of the acts or things prohibited, or wilfully neglect or refuse to do any of the acts or things enjoined by this act, or in any way violate any of its provisions, shall be deemed guilty of a misdemeanor, and where no specific penalty is prescribed by this act shall be punished by a fine of not less than twenty-five nor more than one hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment in the discretion of the court.

CANDY.

(Act No. 207, Public Acts, 1911.)

AN ACT to prevent the adulteration of candies and to regulate the sale thereof.

The People of the State of Michigan enact:

103. SECTION 1. No person, firm or corporation shall manufacture for sale, offer or expose for sale, sell, exchange or deliver, or have in his possession with the intent to sell, exchange or deliver, any candies or confectioneries adulterated by the admixture of terra alba, barytes talc or other earthy or mineral substances, or any poisonous colors, flavors or extracts, or other deleterious ingredients, detrimental to health.

104. SEC. 2. Whoever violates any of the provisions of section one of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than fifty dollars nor more than one thousand dollars and the costs of prosecution, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

105. SEC. 3. All acts and parts of acts inconsistent with this act are hereby repealed.

PEPPER.

(Act No. 180, Public Acts, 1901.)

AN ACT to provide for the manufacture and sale of black pepper in this State and to provide a penalty for the violation of the provisions of this act.

The People of the State of Michigan enact:

106. SECTION 1. Within this State no person, firm or corporation shall manufacture, offer or expose for sale, keep in possession with intent to sell, or sell any ground or whole black pepper containing any for-

eign substance whatever. All black pepper shall contain not more than six and one-half per cent ash or mineral matter; and shall contain not less than twenty-five per cent starch as determined by the diastase method; and shall contain not less than six-tenths of one per cent nor more than one and three-fourths per cent of volatile ether extract; and shall contain not more than ten per cent nor less than six and one-half per cent of non-volatile ether extract; and shall contain not more than sixteen per cent of crude fibre.

107. SEC. 2. Whoever shall do any of the acts or things prohibited, or neglects or refuses to do any of the acts or things enjoined by this act, or in any way violates any of its provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than twenty-five dollars nor more than five hundred dollars and the costs of the prosecution, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

CORN SYRUP.

(Act No. 123, Public Acts, 1903.)

AN ACT in relation to the sale of corn syrup.

The People of the State of Michigan enact:

108. SECTION 1. No person shall offer or expose for sale, have in his possession with intent to sell, or sell, any cane syrup, beet syrup, or glucose, unless the barrel, cask, keg, can, pail or package containing the same be distinctly branded or labeled with the true and appropriate name; nor shall any person offer or expose for sale, have in his possession with intent to sell, or sell any cane syrup or beet syrup mixed with glucose unless the barrel, cask, keg, can, pail or package containing the same be distinctly branded or labeled "Glucose Mixture" or "Corn Syrup," in plain Gothic type not less than three-eighths of an inch square, with the name and percentage by weight of each ingredient contained therein plainly stamped, branded or stenciled on each package in plain Gothic letters not less than one-quarter of an inch square. Each and every package of syrup either simple or mixed shall bear the name and address of the manufacturer. Such mixtures or syrups shall have no other designation or brand than herein required that represents or is the name of any article which contains a saccharine substance; and all brands or labels required shall be an inseparable part of the general or distinguishing label, and that the general or distinguishing label shall be that principal and conspicuous sign under which it is sold.

109. SEC. 2. Whoever shall do any of the acts or things prohibited, or neglect or refuse to do any of the acts or things required by this act, or in any way violate any of the provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the

county jail for a period of not less than thirty nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

This act is ordered to take immediate effect.

PRESERVATIVES.

(Act No. 7, Public Acts, 1905.)

AN ACT in relation to the use of preservatives in food products.

The People of the State of Michigan enact:

110. SECTION 1. No person, firm or corporation shall manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any food product containing benzoic acid or benzoate of sodium, or any other harmless preservative, unless each and every package containing the same shall, in the condition in which it is exposed for sale, be distinctly, conspicuously, and legibly branded, labeled or marked, in plain English letters with the words "Prepared with" followed by the proper English name of the preservative used: Provided, That nothing in this act shall be construed to prohibit or regulate, by branding or otherwise, the use as a preservative of common salt, syrup, sugar, salt petre, spices, alcohol, vinegar, or wood smoke: And Provided Further, That the provisions of this act shall not apply to dairy products.

111. SEC. 2. Whoever shall do any of the acts or things prohibited, or neglect or refuse to do any of the acts or things required by this act, or in any way violate any of its provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than ten dollars nor more than one hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment in the discretion of the court.

This act is ordered to take immediate effect.

MAPLE SUGAR AND SYRUP.

(Act No. 170, Public Acts, 1893.)

AN ACT to prohibit the adulteration of maple sugar, maple molasses and maple syrup.

The People of the State of Michigan enact:

112. (5007) SECTION 1. That it shall be unlawful for any person, dealer, firm, manufacturer or corporation to manufacture and sell, or

offer for sale, any maple sugar, maple molasses or maple syrup that is in anywise adulterated with common sugar, beet sugar, glucose or any other foreign substance without distinctly marking, stamping or labeling the article or the package containing the same with the true and appropriate name of such article and the percentage in which common sugar, beet sugar, glucose or any other foreign substance enters into the composition of the same.

113. (5008) SEC. 2. Any person, dealer, firm, manufacturer or corporation who shall sell or offer for sale, and who shall falsely stamp or misrepresent or label any cans, jugs, jars, or packages containing maple molasses or maple syrup, and any person, dealer, firm, manufacturer or corporation who shall sell or offer for sale any maple sugar that is in anywise adulterated, who falsely misrepresents or labels or stamps the same, or knowingly permits such misrepresentation or false stamping or labeling, shall be deemed guilty of a misdemeanor and punished with a fine not less than fifty dollars, in case of vender, and in the case of manufacturers and those falsely or fraudulently stamping or labeling or misrepresenting such goods, shall be fined not less than five hundred dollars, nor more than one thousand dollars, and it shall be the duty of any board of health in this State, or food commissioner, should there be one, cognizant of any violation of this act to prosecute any person, dealer, firm, manufacturer, or corporation, which it has reason to believe has violated any of the provisions of this act, and after deducting the costs of trial and conviction the balance of fine recovered, one-half be placed in the township treasury wherein the conviction is made, the balance placed to the general fund of the county. Any (person) persons, dealer, firm, manufacturer or corporation who shall knowingly sell or offer for sale any cans, jugs, jars, or packages containing maple molasses, maple syrup, or maple sugar, that is in anywise adulterated, shall be deemed guilty of a misdemeanor and punished by a fine of not more than one hundred dollars, or by imprisonment in the county jail for a period not to exceed three months, or by both such fine and imprisonment, at the discretion of the court.

114 (5009) SEC. 3. Any person, dealer, firm, manufacturer, or corporation, who shall falsely stamp or misrepresent or label any cans, jugs, jars, or packages, containing maple molasses, or maple syrup, or maple sugar, that is in anywise adulterated, or knowingly permits such (misrepresentation) misrepresentations or false stamping or labeling, shall be deemed guilty of a misdemeanor, and punished by a fine, not more than five hundred dollars, or by imprisonment in the county jail for a period of not more than one year, or by both such fine or imprisonment, in the discretion of the court.

ICE CREAM.

(Act No. 70, Public Acts, 1909.)

AN ACT to regulate the manufacture and sale of ice cream within the limits of the State of Michigan.

The People of the State of Michigan enact:

115. SECTION 1. No person, firm or corporation shall manufacture for sale, keep for sale, sell, barter, exchange or deal in ice cream which shall contain any substance other than milk, cream, eggs, sugar, and some neutral flavoring gelatin or vegetable gums or which contain other than the required amount of milk fat as hereinafter provided.

116. SEC. 2. No person, firm or corporation shall manufacture for sale, keep for sale, sell, barter, or deal in ice cream adulterated within the meaning of this act.

117. SEC. 3. Ice cream shall be deemed to be adulterated within the meaning of this act:

First, If it shall contain boric acid, formaldehyde, saccharin, or any other added substance or compound that is deleterious to health;

Second, If it shall contain salts of copper, iron oxide, oces or any coloring substance deleterious to health: Provided, That this paragraph shall not be construed to prohibit the use of harmless coloring matter in ice cream when not used for fraudulent purposes;

Third, If it shall contain any deleterious flavoring matter, or flavoring matter not true to name;

Fourth, If it be an imitation of, or offered for sale under the name of another article;

Fifth, If it contains less than ten per centum milk fat, except where fruit or nuts are used for the purpose of flavoring when it shall not contain less than eight per centum milk fat. Nothing in this act shall be construed to prohibit the use of not to exceed seven-tenths of one per centum of pure gelatin, gum tragacanth or other vegetable gums.

[Am. by Act No. 224, P. A. 1913.]

118. SEC. 4. The standard of ice cream in this State and for the purpose of this act is hereby declared to be a frozen product made from milk, cream, eggs and sugar with or without a natural flavoring and the gums mentioned in the preceding section and contains not less than ten per cent of milk fat. Fruit ice cream is a frozen product made from milk, cream, eggs and sugar and sound, clean, mature fruits, and contains not less than eight per cent of milk fat. Nut ice cream is a frozen product made from milk, cream, eggs, sugar and sound, non-rancid nuts, and contains not less than eight per cent of milk fat.

[Am. by Act No. 224, P. A. 1913.]

119. SEC. 5. It shall not be lawful for any person, firm or corporation to sell, offer for sale, expose for sale, or have in possession with intent to sell, any ice cream in any container which is falsely labeled or

branded as to the name of the manufacturer thereof or to misrepresent in any way the place of manufacture of ice cream or the manufacturer thereof.

120. SEC. 6. Each person, firm or corporation engaged in the manufacture of ice cream as a business within this State, after this act shall take effect, shall file with the Dairy and Food Commissioner an application for a license accompanied with a fee of five dollars, and upon receipt of such application the Dairy and Food Commissioner shall issue to the person, firm or corporation making such application a license to manufacture ice cream, as provided in this act, which license shall run for one year from the date of the application, and shall be renewed annually thereafter.

The money so collected by the Dairy and Food Commissioner shall be paid into the State treasury and be used to help defray the expenses of the office of the Dairy and Food Commissioner in addition to the annual appropriation therefor: Provided, That this section shall not apply except in cities of more than three thousand inhabitants, by the last United States census, to any person, firm or corporation manufacturing and selling ice cream by the dish direct to the consumer.

121. SEC. 7. Any person, firm or corporation who shall violate any of the provisions of this act shall be deemed guilty of a misdemeanor and upon conviction shall be fined not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail for not less than thirty days nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

122. SEC. 8. The Dairy and Food Commissioner shall be charged with the enforcement of the provisions of this act.

This act is ordered to take immediate effect.

MILL PRODUCTS.

(Act No. 208, Public Acts, 1909.)

AN ACT to establish uniform weights and measures of the various products of cereals in barrels or the fractional parts thereof when packed for sale or exposed for sale to firms or persons within this State, and to provide for the marking of the weight on packages of the products of such cereals.

The People of the State of Michigan enact:

123. SECTION 1. When mill products of wheat, corn, rye or buckwheat, known as flour, grits, meal or compounds of the same are placed or packed in barrels, fractional parts of a barrel or sacks to be sold or billed to any person or persons within this State, the standard weight or measure of a barrel or the fractional part thereof shall be as follows, viz.:

One hundred ninety-six pounds for a barrel;
Ninety-eight pounds for one-half barrel;

Forty-nine pounds for one-quarter barrel;
Twenty-four and one-half pounds for one-eighth barrel;
Twelve and one-fourth pounds for one-sixteenth barrel;
Six and one-eighth pounds for one thirty-second barrel.

The full and correct weights as herein established shall be placed in said barrel or fractional part thereof by the manufacturer, company, dealer, person or persons filling the same, and the weights as herein established shall be the legal weights in this State for such packages when they are bought or sold, offered or exposed for sale, or in possession with intent to sell, or sold and delivered, ordered or billed.

124. SEC. 2. No person or persons shall sell, offer or expose for sale in this State by the barrel, or by the fractional parts of a barrel as herein established, any of the mill products specified in section one hereof, unless the barrel or fractional part of such barrel shall contain the full weight of such mill product as is provided for in section one hereof.

125. SEC. 3. Before any package containing the mill products or compounds of such mill products specified in section one of this act shall be sold or offered or exposed for sale in this State, the number of pounds contained therein shall be plainly printed or stamped on the face label in plain English letters and numbers not less than one-half inch high. When such packages are sold as one-half, one-quarter, one-eighth, one-sixteenth or one-thirty-second of a barrel they shall be so marked in addition to the number of pounds marked thereon as herein provided.

126. SEC. 4. No manufacturer, company, dealer or person shall abstract any part of the mill products from the standard package or fractional parts named in section one, and sell such package as a barrel or fractional part of a barrel as defined in section one.

127. SEC. 5. Any manufacturer, company, dealer, person or persons who shall knowingly sell, offer or expose for sale or for distribution in this State any package containing mill products of the cereals enumerated in section one which are stamped or labeled with a greater number of pounds than such package actually contains, or who shall put up or sell in this State any of the mill products of the above named cereals in a manner contrary to the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than twenty-five dollars nor more than five hundred dollars and the costs of prosecution, or by imprisonment in the county jail or the Michigan Reformatory at Ionia for not less than ninety days nor more than one year or by both such fine and imprisonment in the discretion of the court for each and every offense: Provided, however, That nothing in this act shall be construed to cover or affect sales or shipments made to any manufacturer, company, dealer, person or persons outside of this State and not intended for sale or shipment back into this State.

128. SEC. 6. It shall be the duty of the Dairy and Food Commissioner to investigate all complaints of violations of this act, and to take all steps necessary to its enforcement. It shall be the duty of all prosecuting officers of this State to prosecute to completion all suits brought under the provisions of this act upon complaint of said commissioner or any person.

129. SEC. 7. This act shall take effect and be operative from and after January first, nineteen hundred ten.

LINSEED OR FLAXSEED OIL.

(Act No. 110, Public Acts, 1909.)

AN ACT to prevent the adulteration of linseed oil or flaxseed oil and to prevent fraud in the sale thereof and in the sale of compounds thereof, and to repeal all acts in conflict herewith.

The People of the State of Michigan enact:

130. SECTION 1. No person, firm or corporation, by himself, his servant, or his agent, or as the servant or agent of any other person, firm or corporation, shall manufacture or mix for sale, sell, offer or expose for sale, or have in his possession with intent to sell in this State, under the name of raw linseed oil or raw flaxseed oil, any substance which is not wholly the product obtained from well cleaned flaxseed or linseed, and unless the aforesaid oil also fulfills the requirements of the nineteen hundred edition of the Pharmacopoeia of the United States, which follows:

1. Specific gravity 0.925 to 0.935 at 25 deg. C. (77 deg. F.) It does not congeal at temperatures above 20 deg. C. (—4 deg. F.) It is soluble in about ten parts of absolute alcohol and in all proportions in ether, chloroform, petroleum, benzine, carbon disulphide and oil of turpentine. It should not more than slightly redden blue litmus paper, previously moistened with alcohol (limit of free acid). The oil should be completely saponifiable with alcoholic potassium hydroxide T. S. and the resulting soap should be completely soluble in water without leaving an oily residue, (absence of mineral oils and rosin oils). If 2 CC. of the oil be warmed and shaken in a test tube with an equal volume of glacial acetic acid, and if to this mixture, after cooling, one drop of sulphuric acid be added, a greenish color should be produced. (A violet color under these circumstances indicates the presence of rosin oils). Linseed oil saponified by alcoholic potassium hydroxide T. S. should show a saponification value of from 187 to 195. If 0.15 CC. of linseed oil be dissolved in 10 CC. of chloroform in a 250 CC. flask at 25 CC. of a mixture of equal volume of alcoholic iodine T. S. and alcoholic mercuric chloride T. S. added, and if, after standing for sixteen hours, protected from the light, 20 CC. potassium iodide T. S. be introduced and the mixture diluted with 50 CC. of water, on titrating the excess of iodine with tenth normal sodium thiosulphate V. S. an iodine value of not less than 170 should be obtained. No person, firm or corporation, by himself, his servant or his agent, or as the servant or agent of any other person, firm or corporation, shall manufacture or mix for sale, sell, offer or expose for sale or have in his possession with intent to sell in this State, any substance as boiled linseed oil or as boiled flaxseed oil, unless the

same shall have been prepared by heating raw linseed oil, as defined above: Provided, That if drier is used in said boiled linseed oil or boiled flaxseed oil, the same shall have been prepared by incorporating said drier with raw linseed oil, as defined above, at a temperature of not less than 225 deg. Fahrenheit, and furthermore contains not less than 96 per cent of linseed oil; and for the purpose of this act it shall also be deemed a violation thereof if said boiled linseed oil prepared either with or without drier does not conform to the following requirements: 1. Its specific gravity at 60 deg. Fahrenheit must be not less than 0.935 and not greater than 0.945; 2. Its saponification value (Koettstorfer figure) must not be less than 186; 3. Its iodine number (Huebl's method) must be not less than 160; 4. Its acid value must not exceed 10; 5. The volatile matter expelled at 212 deg. Fahrenheit must not exceed one-half of one per cent; 6. No mineral oil shall be present and the amount of unsaponifiable matter as determined by standard methods shall not exceed 2.5 per cent; 7. The film left after flowing the oil over glass and allowing it to drain in a vertical or nearly vertical position must dry free from tackiness in not to exceed twenty hours, at a temperature of about 70 deg. Fahrenheit. Linseed oil or flaxseed oil which does not conform to the foregoing requirements shall be deemed to be adulterated within the meaning of this act.

131. SEC. 2. No person, firm or corporation, either by himself or another, shall sell, offer or expose for sale, or have in his possession with intent to sell in this State any linseed oil or flaxseed oil, except under its true name, and unless each barrel, keg or can of such oil has plainly and durably painted, stamped, stenciled, labeled or marked thereon the true name of such oil in ordinary bold-faced capital letters, not less than five lines pica in size, together with the name and address of the manufacturer, jobber or dealer: Provided, That if the contents of the package be less than twenty-five gallons, the type shall not be less than two lines pica in size. Proof that any person, firm or corporation has or had possession of any oil or compound which is adulterated or misbranded within the meaning of this act shall be prima facie evidence that the possession thereof is in violation of this act.

132. SEC. 3. Linseed oil compounds or flaxseed oil compounds designed to take the place of raw or boiled linseed oil or raw or boiled flaxseed oil as defined in section one of this act whether sold, offered or exposed for sale under invented proprietary names or titles or not, shall bear conspicuously upon the containing vessel, in capital letters not less than five line pica in size, the word "Compound," followed immediately with the true distinctive names of the actual ingredients in the order of their greater preponderance, in the English language, in plain legible type of the same size, not less than two lines pica in size, in continuous list with no intervening matter of any kind, and shall also bear the name and address of the manufacturer, jobber or dealer. Any oil or compounds required to be branded by the provisions of this act and not complying with sections two and three shall be deemed to be misbranded within the meaning of this act.

133. SEC. 4. It is hereby made a duty of the State Dairy and Food Commissioner to enforce the provisions of this act.

134. SEC. 5. The State Dairy and Food Commissioner, his agents,

assistants, inspectors, chemists or others appointed by him, shall have full rights of ingress and egress to the premises occupied by parties who manufacture, sell or deal in linseed oil or flaxseed oil, or linseed oil compounds or flaxseed oil compounds, and also shall have power and authority to open any tank, barrel, can or other vessel believed to contain such oil and inspect the contents thereof and to take therefrom samples for analysis. In case any sample so taken shall prove on analysis to be adulterated or misbranded in violation of the provisions of this act it shall be the duty of the State Dairy and Food Commissioner to proceed against the offender as herein provided. No person shall obstruct the State Dairy and Food Commissioner or any of his assistants by refusing entrance to any place which he desires to enter in the discharge of his official duty as provided in this act, nor shall any person refuse to deliver to him a sample of oil when same is requested and when the value thereof is tendered.

135. SEC. 6. Any person, firm or corporation convicted of violating any of the provisions of the foregoing act shall, for the first offense be punished by a fine in any sum not less than twenty-five dollars and not more than one hundred dollars or by imprisonment in the county jail not exceeding thirty days, or by both such fine and imprisonment in the discretion of the court; and for the second and each subsequent offense by a fine of not less than fifty dollars and not more than two hundred dollars or by imprisonment in the county jail not exceeding one year, or both in the discretion of the court; or the fine above may be sued for and recovered before any justice of the peace or any court of competent jurisdiction, in the county where the offense shall have been committed, at the instance of the State Dairy and Food Commissioner or any other person in the name of the people of the State of Michigan as plaintiff and shall be recovered in an action of debt.

136. SEC. 7. All acts and parts of acts inconsistent with this act are hereby repealed.

DRUGS.

(Act No. 146, Public Acts, 1909.)

AN ACT to prohibit and prevent adulteration, misbranding, fraud and deception in the manufacture and sale of drugs and drug products in the State of Michigan, and to provide for the enforcement thereof.

The People of the State of Michigan enact:

137. SECTION 1. No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any drug or drug product which is adulterated or misbranded within the meaning of this act.

138. SEC. 2. The term "drug" as used in this act shall include all medicines and preparations recognized in the United States Pharma-

copoeia or National Formulary for internal or external use, and any substance or mixture of substances intended to be used for the cure, mitigation or prevention of disease of either man or other animals.

139. SEC. 3. An article shall be deemed to be adulterated within the meaning of this act:

First, If, when it is sold under or by a name recognized in the United States Pharmacopoeia or National Formulary, it differs from the standard of strength, quality or purity as determined by the test laid down in the United States Pharmacopoeia or National Formulary official at the time of investigation: Provided, That no drug defined in the United States Pharmacopoeia or National Formulary shall be deemed to be adulterated under this provision if the standard of strength, quality or purity be plainly stated upon the principal label of the bottle, box or other container thereof, although the standard may differ from that determined by the test laid down in the United States Pharmacopoeia or National Formulary;

Second, If its strength or purity fall below the professed standard or quality under which it is sold.

140. SEC. 4. An article shall be deemed to be misbranded within the meaning of the act:

First, If it is an imitation of, or offered for sale under the name of another article;

Second, If the contents of the package as originally put up shall have been removed in whole or in part, and other contents shall have been placed in such package, or if the package fail to bear a statement on the label of the quantity or proportion of any alcohol, antipyrin, opium, morphine, codeine, heroin, cocaine, alpha or beta eucaine, chloroform, cannabis indica, chloral hydrate or acetanilide, or any derivative or preparation of any such substances, contained therein: Provided. That nothing herein shall be construed to apply to the dispensing of prescriptions written by regularly licensed practicing physicians, veterinary surgeons and dentists, and kept on file by the dispensing pharmacist, nor to such drugs as are recognized in the United States Pharmacopoeia and National Formulary, and which are sold under the name by which they are so recognized;

Third, If the package containing it or its label shall bear any statement, design or device regarding the ingredients or the substances contained therein, which statement, design or device shall be false or misleading in any particular, and to any drug or drug product which is falsely branded as to the State, territory or country in which it is manufactured or produced.

141. SEC. 5. The president of the board of pharmacy, the president of the State Board of Health and the Dairy and Food Commissioner shall jointly make such rules and regulations as may be necessary for the enforcement of this act.

142. SEC. 6. It shall be the duty of the Dairy and Food Commissioner to investigate all complaints of violations of this act and take all steps necessary to its enforcement; and to this end he shall appoint two drug inspectors who shall be registered pharmacists, and one competent analyst; which inspectors and analyst shall hold office at the pleasure of said commissioner, and until others are appointed; and the said

Dairy and Food Commissioner or his deputy and the said drug inspectors or any of them shall in a lawful manner inquire into the drug products which are manufactured or sold or exposed or offered for sale in this State, and may in a lawful manner procure samples of the same for analysis; and the said Dairy and Food Commissioner, his deputy, or said drug inspectors or any of them, shall have power to enter into any factory, store, salesroom, drug store or laboratory or place where he has reason to believe drug products are made, stored, sold or offered for sale, and open any cask, jar, bottle or package containing, or supposed to contain any drug product, and take therefrom samples for analysis. The person making such inspection shall take such sample of such article or product in the presence of at least one witness, and he shall, in the presence of said witness mark or seal such sample and shall tender at the time of taking to the manufacturer or vendor of such product or to the person having the custody of the same the value thereof and a statement in writing for the taking of such sample. The said Dairy and Food Commissioner shall direct said analyst to make due and careful examination of such sample and report to him the result of such analysis and if the same is found to be adulterated or misbranded within the provisions of this act it shall be the duty of said commissioner, his deputy or any drug inspector assigned to such duty to make complaint against the manufacturer or vendor thereof in the proper county and furnish all evidence thereof to obtain a conviction of the offense charged, and in no case shall the Dairy and Food Commissioner or drug inspector making such complaint be required to furnish security for costs in any action instituted by him having for its object the enforcement of this act: Provided, Nothing herein contained shall be held to prohibit or prevent other inspectors or chemists connected with the office of the Dairy and Food Commissioner from performing any of the duties herein imposed upon the said drug inspectors and analyst, whenever in the opinion of said Dairy and Food Commissioner the work of his office can be expedited thereby.

143. SEC. 7. In construing and enforcing the provisions of this act, the act, omission or failure of any officer, agent or other person acting for or employed by any corporation, company, society or association within the scope of his employment or office, shall, in every case, be also deemed to be the act, omission or failure of such corporation, company, society or association, as well as that of the person: Provided, That no dealer shall be prosecuted under the provisions of this act when he can establish a guaranty in accordance with the provisions of the national food and drug act, June thirtieth, nineteen hundred six, or a guaranty signed by the wholesaler, jobber, manufacturer or other parties residing in this State, from whom he purchased such article, to the effect that the same is not adulterated nor misbranded within the meaning of this act. Said guaranty to afford protection shall contain the name and address of the party or parties making the sale of such article to such dealer, and in such case, if such guaranty was given in this State, said party or parties shall be amenable to the prosecution, fines and other penalties which would attach in due course to the dealer under the provisions of this act: Provided, however, That said guaranty shall not afford protection to the vendor in any case if said product is

adulterated or misbranded within the meaning of this act, and if said vendor shall have been previously notified in writing by the Dairy and Food Commissioner to that effect: Provided further, That in no case shall the Dairy and Food Commissioner serve such notice upon any vendor of any such product until said Dairy and Food Commissioner shall have notified the manufacturer or jobber of any such product of the findings of the State Analyst with reference to such product; such notification to such manufacturer or jobber shall be in writing and shall be mailed ten days previous to any notice sent to any vendor in accordance with this section.

144. SEC. 8. Nothing in this act shall affect any drug product manufactured in this State for export to any foreign country or for sale in any other State, when such drug product is not adulterated or misbranded within the meaning of the laws of such foreign country or State; but if said article shall be in fact sold or offered for sale for use or consumption within this State, then such article shall not be exempt from the operation of any of the provisions of this act.

145. SEC. 9. It shall be the duty of each prosecuting attorney, when called upon by the said Dairy and Food Commissioner, or by any person by him authorized as aforesaid, to render any legal assistance in his power in proceedings under the provisions of this act or any subsequent act relative to the adulteration or misbranding of drug products.

146. SEC. 10. Whoever shall do any of the acts or things prohibited, or wilfully neglect or refuse to do any of the acts or things enjoined by this act, or in any way violate any of its provisions, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than twenty-five nor more than five hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both fine and imprisonment in the discretion of the court.

147. SEC. 11. The sum of six thousand dollars is hereby appropriated for the fiscal year ending June thirtieth, nineteen hundred eleven, and for each fiscal year thereafter there is hereby appropriated the sum of six thousand dollars. Out of the amounts appropriated by this act shall be paid all salaries and expenses provided for herein.

TURPENTINE.

(Act No. 175, Public Acts, 1911.)

AN ACT regulating the sale of turpentine and providing penalties for the violation of this act.

The People of the State of Michigan enact:

148. SECTION 1. No person, firm or corporation shall manufacture, mix for sale, sell or offer for sale for other than medical purposes, under the name of turpentine or under a name composed of a part or parts of the word turpentine, or spirits of turpentine, any article which is not

wholly distilled from resin, turpentine gum or scrape from pine trees and unmixed and unadulterated with oil, benzine or other foreign substance of any kind whatsoever, unless the package containing the same shall be stenciled or marked with letters not less than one inch square and one-fourth inch apart "adulterated turpentine," except turpentine produced from turpentine gum extracted wholly from pine wood, which turpentine is known as "wood turpentine" must be stenciled or marked "wood turpentine" with letters not less than one inch square and one-fourth inch apart. When such wood turpentine is mixed and adulterated with oil, benzine or other foreign substances of any kind whatsoever, the container shall be stenciled or marked "adulterated wood turpentine" with letters not less than one inch square and one-fourth inch apart. When wood turpentine is mixed with turpentine distilled from resin, turpentine gum, or scrape from pine trees, in any quantity whatsoever, the container shall be stenciled or marked "wood turpentine" with letters not less than one inch square and one-fourth inch apart: Provided, That if the contents of the package be less than twenty-five gallons, the type shall not be less than two lines pica in size. Nothing herein contained shall be construed to prohibit the manufacture or sale of any compound or imitation providing the container shall be plainly marked and the purchaser notified as aforesaid.

[Am. by Act No. 372, P. A. 1913.]

149. SEC. 2. The Dairy and Food Commissioner of Michigan shall enforce the provisions of this chapter and the penal statutes relating thereto, and such commissioner, his assistants, experts, chemists and agents shall have access and ingress to the places of business, stores and buildings used for the sale of turpentine, and may open any package, can or jar or other receptacle containing any turpentine that may be manufactured, sold or offered for sale in violation of this statute. The inspectors, assistants or chemists appointed by such commissioner shall perform like duties and have like authority under this chapter and the penal statutes relating thereto as is provided by law in other cases. Such commissioner shall publish bulletins from time to time giving the results of the inspections and analyses with such information as he deems suitable.

150. SEC. 3. Whosoever violates any provision of law relating to the labeling, marking or stenciling of turpentine or wood turpentine by manufacturers or distributors thereof, shall be fined not more than fifty dollars for the first offense, and for each subsequent offense shall be fined not less than fifty dollars nor more than one hundred dollars, or imprisoned not less than thirty days nor more than one hundred days or both.

BABCOCK TEST.

(Act No. 280, Public Acts, 1907.)

AN ACT to regulate the sampling and testing of milk and cream and the use of the Babcock test and to make the violation of any provision hereof a misdemeanor.

The People of the State of Michigan enact:

151. SECTION 1. In taking samples of milk or cream from any milk can, cream can or any container of milk or cream, the contents of such milk can, cream can, or container of milk and cream shall first be thoroughly mixed either by stirring or otherwise and the sample shall be taken immediately after mixing, or by any other method which gives a representative average sample of the contents, and it is hereby made a misdemeanor to take samples by any method which does not give a representative average sample where milk or cream is bought or sold, and where the value of said milk or cream is determined by the butter fat contained in the same by the Babcock test.

152. SEC. 2. In the use of the Babcock test, the standard milk measures or pipettes shall have a capacity of 17.6 cubic centimeters at sixty degrees Fahrenheit and the standard test tubes or bottles for milk shall have a capacity of two cubic centimeters for each ten per cent, marked on the necks thereof; cream shall be tested by weight and the standard unit for testing shall be 18 grams, and it is hereby made a misdemeanor to use any other standards of milk or cream measure where milk or cream is purchased by or furnished to creameries or cheese factories, condensed milk factories, milk depots, or any other place where the value of said milk or cream is determined by the per cent of butter fat contained in the same by the Babcock test.

153. SEC. 3. It shall be unlawful for the owner, manager, agent or any employe of a cheese factory, creamery, condensed milk factory or milk depot or other place where milk or cream is tested for quality or value to falsely manipulate or under-read or over-read the Babcock test, or make settlements on any other basis than the correct reading of the Babcock test or any other contrivance used for determining the quality or value of milk or cream where the value of said milk or cream is determined by the per cent of butter fat contained in the same or to make any false determination by the Babcock test or otherwise.

154. SEC. 4. Whoever shall violate any of the provisions of this act shall be guilty of a misdemeanor and upon conviction thereof shall be punished by a fine of not less than ten dollars nor more than fifty dollars for each and every offense or be imprisoned in the county jail not less than ten days nor more than thirty days.

SAUSAGE.

(Act No. 151, Public Acts, 1913.)

AN ACT providing for the protection of the public health and the prevention of fraud and deception, by prohibiting the sale, the offering for sale or exposing for sale or the having in possession with intent to sell, of adulterated or deleterious sausage; defining sausage; and prescribing the penalty for the violation hereof.

The People of the State of Michigan enact:

155. SECTION 1. It shall be unlawful for any person or persons, by himself, herself or themselves, or by his, her or their agents, servants or employes, to sell, offer for sale, expose for sale, or have in possession with intent to sell, sausage that is adulterated within the meaning of this act. Sausage when used in this act shall be deemed to include Bologna, Wiene-wurst and Frankforts.

156. SEC. 2. For the purpose of this act, sausage or sausage meat shall be held to be a comminuted meat from neat cattle or swine, or a mixture of such meats, either fresh, salted, pickled or smoked, with added salt and spices, and with or without the addition of edible animal fat, blood and sugar, or subsequent smoking. It shall contain no larger amount of water than the meats from which it is prepared contain when in their fresh condition.

157. SEC. 3. For the purpose of this act, sausage shall be deemed to be adulterated:

First, If it contains added water in excess of the quantity required to bring the amount up to that which the meats from which it is prepared contain immediately after slaughter;

Second, If it contains any cereal or vegetable flour;

Third, If it contains any coal-tar dye, boric acid or borates, sulphites, sulphur dioxide, sulphurous acid, or any other substances injurious or deleterious to health;

Fourth, If it contains any diseased, contaminated, filthy or decomposed substance; or is manufactured, in whole or in part, from a diseased, contaminated, filthy or decomposed substance, or a substance produced, stored, transported or kept in a way or manner that would render the article diseased, contaminated or unwholesome; or if it is any product of a diseased animal, or the product of any animal which has died otherwise than by slaughter. Nothing in this act shall be construed as prohibiting the sale of sausage which when properly labeled shall conform to the following standard: Sausage shall not contain cereal in excess of two per cent. When cereal is added its presence shall be noted on the label or on the product. That water or ice shall not be added to it except for the purpose of facilitating grinding, chopping, and mixing, in which case the added water or ice shall not exceed three per cent except as provided in the following paragraph. Sausages of the class which are cooked or smoked, such as Frankfort style, Vienna style and Bologna style, may contain added water in excess of three per cent, but not in excess of amount sufficient to make the sausage palatable. When water

in excess of three per cent is added to this class of sausage, the statement "Sausage, water and cereal" shall appear on the label or on the product, but when no cereal is added, the addition of water need not be stated.

158. SEC. 4. Any person who shall violate any of the provisions of this act shall be guilty of a misdemeanor, and upon conviction thereof shall be sentenced to pay a fine of not less than one hundred dollars, nor more than two hundred dollars, or to undergo an imprisonment of not less than thirty days, nor more than sixty days, or both or either, in the discretion of the court.

159. SEC. 5. The dairy and food commissioner shall be charged with the enforcement of the provisions of this act.

WEIGHTS AND MEASURES.

(Act No. 168, Public Acts, 1913.)

AN ACT to provide for a state superintendent of weights and measures, state, county and city sealers and inspection of weights and measures, prescribing their powers and duties, providing penalties for fraud and deception in the use of false weights and measures and confiscation thereof, and repealing sections four thousand eight hundred eighty-two to four thousand eight hundred ninety-seven inclusive of the Compiled laws of eighteen hundred ninety-seven.

The People of the State of Michigan enact:

160. SECTION 1. The weights and measures received from the United States under a resolution of congress approved June fourteen, eighteen hundred thirty-six and such new weights and measures as shall be received from the United States as standard weights and measures in addition thereto or in renewal thereof, and such as shall be supplied by the state in conformity therewith and certified by the national bureau of standards, shall be the state standards, by which all county and municipal standards of weights and measures shall be tried, proved and sealed.

161. SEC. 2. The state dairy and food commissioner by virtue of his office shall be state superintendent of weights and measures during his term of office. His deputy shall be deputy superintendent of weights and measures and all inspectors appointed by the dairy and food commissioner shall be state inspectors and sealers of weights and measures.

162. SEC. 3. The superintendent of weights and measures shall take charge of the standards adopted by this article as the standards of the state, and cause them to be kept in a safe and suitable place in the office of the superintendent from which they shall not be removed except for repairs or for certification and he shall take all other necessary precautions for their safe keeping. He shall maintain the state standards in good order and shall submit them at least once in ten years to the national bureau of standards for certification. He shall at least once in five years try and prove by the state standards all weights, measures

and other apparatus which may belong to any county or city, and shall seal such when found to be accurate, stamping on them the letter "C" and the last two figures of the year with seals which he shall have and keep for that purpose. He shall have and keep a general supervision of the weights, measures and weighing and measuring devices offered for sale, sold, or use in the state. He shall, upon the written request of any citizen, firm, corporation or educational institution in the state test or calibrate weights, measures, weighing or measuring devices, and instruments or apparatus used as standards in the state. He, or his deputy, or inspectors, by his direction, shall at least once annually test all scales, weights, and measures used in checking the receipts and disbursements of supplies in every institution for the maintenance of which moneys are appropriated by the legislature, and he shall report in writing his finding to the supervisory board and to the executive officer of the institution concerned, and at the request of such board or executive officer the superintendent of weights and measures shall appoint in writing one or more employes then in the actual service of each institution, who shall act as special deputies without extra compensation for the purpose of checking the receipts and disbursements of supplies. He shall keep a complete record of standards, balances and other apparatus belonging to the state and take a receipt for same from his successor in office. He shall annually on the first day of July make to the governor a report of the work done by his office. The state superintendent or his deputy, or inspectors, at his direction, shall inspect all standards and apparatus used by the counties and cities at least once in five years and shall keep a record of the same. He, or his deputy, or inspectors, at his direction shall at least once in five years visit the various cities and counties of the state in order to inspect the work of the local sealers, and in the performance of such duties, he may inspect the weights, measures, balances, or any other weighing appliance of any citizen, firm, or corporation, and shall have the same power as the local sealer of weights and measures. The superintendent shall issue from time to time, regulations for the guidance of city and county sealers, and the said regulations shall govern the procedure to be followed by the aforesaid officers in the discharge of their duties.

163. SEC. 4. The board of supervisors of each county and the commissioner or common council of each city who may in their discretion appoint a sealer under this act, shall procure at the expense of the county or city, and shall keep at all times, a complete set of weights and measures and other apparatus of such material and construction as said superintendent of weights and measures may direct. All such weights, measures, and other apparatus having been tried and accurately proven by him, shall be sealed and certified to by the state superintendent as hereinbefore provided; and shall be then deposited with and preserved by the county or city sealer as public standards for such county or city.

164. SEC. 5. The board of supervisors of each county may in its discretion appoint a county sealer of weights and measures in each county for a term of two years. He shall be paid a salary to be determined by said board, and no fee shall be charged by him or by the county for the inspection, testing, or sealing of weights, measures, or weighing or measuring devices; where not otherwise provided by law, the county sealer shall have the power within his county, and the state

superintendent, his deputies and inspectors, within the state, to inspect, test, try, and ascertain if they are correct, all weights, scales, beams, measures of every kind, instruments or mechanical devices for measuring and tools, appliances and accessories connected with any and all such instruments or measures kept, offered, or exposed for sale, sold or used or employed within the county by any proprietor, agent, lessee, or employe in proving the size, quantity, extent, area, or measurement of quantity, things, produce, articles for distribution or consumption offered or submitted by such person or persons for sale, hire, or award; and they shall have the power to and shall from time to time weigh or measure packages or amounts of commodities of whatsoever kind kept for the purpose of sale, offered for sale, or sold or in the process of delivery, in order to determine whether the same contains the amount represented, and whether they be offered for sale or sold in a manner in accordance with law. The county sealer shall at least once each year, and as much oftener as he may deem necessary, see that the weights, measures, and all apparatus used in the county are correct. The county and state inspectors may for the purpose above mentioned and in the general performance of their official duties enter or go in upon, and without formal warrant, any stand, place, building, or premises, or stop any vendor, peddler, junk dealer, coal wagon, ice wagon, delivery wagon, or any dealer whatsoever and require him, if necessary, to proceed to some place which the sealer may specify, for the purpose of making the proper tests. Whenever the county sealer or state inspectors find a violation of the statutes relating to weights and measures, they shall cause the violator to be prosecuted. Whenever any sealer or inspector compares weights, measures, or weighing and measuring instruments and finds that they correspond, or causes them to correspond, with the standards in his possession, he shall seal or mark such weights, measures, or weighing or measuring instruments with appropriate devices to be approved by the state superintendent of weights and measures. The county sealer shall keep a complete record of all of his official acts and shall make an annual report to the board of supervisors and an annual report duly sworn to on the first day of July to the state superintendent of weights and measures on blanks to be furnished by the superintendent. The county sealer of weights and measures shall forthwith on his appointment give a bond in the penal sum of one thousand dollars, with sureties to be approved by the appointing power for the faithful performance of the duties of his office: Provided, however, That nothing in the above shall be construed to prevent two or more counties from combining the whole or any part of their districts as may be agreed upon by the board of supervisors with one set of standards and one sealer, upon the written consent of the state superintendent of weights and measures. A county sealer appointed in pursuance of such an agreement for such combination, shall, subject to the terms of his appointment, have the same authority, jurisdiction, and duties as if he had been appointed by each of the authorities who are party to the agreement.

165. SEC. 6. Any incorporated city in this state may in its discretion appoint a city sealer of weights and measures under this act. He shall be appointed by the mayor, by and with the advice and consent of the common council. He shall perform in said city the duties and have like powers as the county sealer in the county. In those cities in which

no sealer is appointed as above, the county sealer of the county, if there be one, shall perform in said cities the duties and have like powers as in the county: Provided, however, That nothing in the above shall be construed to prevent any county and a city situated therein from combining the whole or any part of their districts as may be agreed upon with one sealer, subject to the written approval of the state superintendent of weights and measures. A sealer appointed in pursuance of an agreement for such combination shall, subject to the terms of his appointment, have the same authority, jurisdiction, and duties as if he had been appointed by each of the authorities who are parties to the agreement.

166. SEC. 7. Any person who by himself or by his servant or agent or as the servant or the agent of another shall offer or expose for sale, sell, or use or retain in his possession, a false weight or measure or weighing or measuring device or any weight or measure or weighing or measuring device which has not been sealed by the sealer of weights and measures within five years, in the buying or selling of any commodity or thing or for hire or reward; or who shall dispose of any condemned weight, measure or weighing or measuring device contrary to law or remove any tags placed thereon by the sealer of weights and measures; or any person who by himself or by his servant or agent, or as the servant or agent of another, shall knowingly sell or offer or expose for sale less than the quantity he represents, or sell or offer or expose for sale any such commodity in a manner contrary to law; or any person who by himself or by his servant or agent, or as the servant or agent of another, shall sell or offer for sale or have in his possession for the purpose of selling any device or instrument to be used to, or calculated, to falsify any weight or measure, shall be guilty of a misdemeanor, and shall be punished by a fine of not less than twenty dollars nor more than one hundred dollars or by imprisonment for not more than three months or by both such fine and imprisonment upon first conviction; but upon a second or subsequent conviction he shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars or by imprisonment in the county jail for not more than one year or by both such fine and imprisonment.

167. SEC. 8. The superintendent of weights and measures, his deputy, inspectors, and the county and city sealers of weights and measures are hereby made special policemen, and are authorized to seize, for use as evidence and without formal warrant any false or unsealed weight, measure or weighing or measuring device or package or amounts of commodities, found to be used, retained or offered or exposed for sale or sold in violation of law.

168. SEC. 9. Any person who shall hinder or obstruct in any way, the superintendent of weights and measures, his deputy, or inspectors, or any county or city sealer, in the performance of his official duties shall be guilty of a misdemeanor, and shall be punished upon conviction thereof, in any court of competent jurisdiction, by a fine of not less than two nor more than two hundred dollars, or by imprisonment in the county jail for not more than ninety days or by both such fine and imprisonment.

169. SEC. 10. Any person who shall impersonate in any way the superintendent of weights and measures, his deputies, inspectors, or any

county or city sealer, by use of his seal or otherwise, shall be guilty of a misdemeanor and shall be punished by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment in the county jail for not more than ninety days or by both such fine and imprisonment.

170. SEC. 11. Sections four thousand eight hundred eighty-two, four thousand eight hundred eighty-three, four thousand eight hundred eighty-four, four thousand eight hundred eighty-five, four thousand eight hundred eighty-six, four thousand eight hundred eighty-seven, four thousand eight hundred eighty-eight, four thousand eight hundred eighty-nine, four thousand eight hundred ninety, four thousand eight hundred ninety-one, four thousand eight hundred ninety-two, four thousand eight hundred ninety-three, four thousand eight hundred ninety-four, four thousand eight hundred ninety-five, four thousand eight hundred ninety-six and four thousand eight hundred ninety-seven, of the Compiled Laws of eighteen hundred ninety-seven, relative to weights and measures, are hereby repealed.

AN ACT to provide for the weight per bushel, of certain grain, dried fruit, coal, vegetables and products.

The People of the State of Michigan enact:

(4900) SECTION 1. That whenever wheat, rye, shelled corn, corn on the cob, corn meal, oats, buckwheat, beans, clover seed, timothy seed, flax seed, hemp seed, millet seed, blue grass seed, red top seed, barley, dried apples, dried peaches, potatoes, potatoes (sweet), onions, turnips, peas, cranberries, dried plums, castor beans, salt, mineral coal, Hungarian grass seed, orchard grass seed, osage orange seed, shall be sold by the bushel, and no special agreement as to the measure or weight thereof shall be made by the parties, the measure thereof shall be ascertained by weight and shall be computed as follows, viz.:

Sixty pounds for a bushel of wheat;
Fifty-six pounds for a bushel of rye;
Fifty-six pounds for a bushel of shelled corn;
Seventy pounds for a bushel of corn on the cob;
Fifty pounds for a bushel of corn meal;
Thirty-two pounds for a bushel of oats;
Forty-eight pounds for a bushel of buckwheat;
Sixty pounds for a bushel of beans;
Sixty pounds for a bushel of clover seed;
Forty-five pounds for a bushel of timothy seed;
Fifty-six pounds for a bushel of flax seed;
Forty-four pounds for a bushel of hemp seed;
Fifty pounds for a bushel of millet or Hungarian grass seed.
Fourteen pounds for a bushel of blue grass seed;
Fourteen pounds for a bushel of red top seed;
Forty-eight pounds for a bushel of barley;
Twenty-two pounds for a bushel of dried apples;

Twenty-eight pounds for a bushel of dried peaches;
Sixty pounds for a bushel of potatoes;
Fifty-six pounds for a bushel of sweet potatoes;
Fifty-four pounds for a bushel of onions;
Fifty-eight pounds for a bushel of turnips;
Sixty pounds for a bushel of peas;
Forty pounds for a bushel of cranberries;
Twenty-eight pounds for a bushel of dried plums;
Forty-six pounds for a bushel of castor beans;
Fifty-six pounds for a bushel of Michigan salt;
Eighty pounds for a bushel of mineral coal;
Fourteen pounds for a bushel of orchard grass seed;
Thirty-three pounds for a bushel of osage orange seed.

UNLAWFUL DISCRIMINATION.

(Act No. 103, Public Acts, 1913.)

AN ACT to prevent unlawful discrimination in the purchase of poultry, eggs, milk, cream and butter-fat, and to provide a punishment for the same.

The People of the State of Michigan enact:

171. SECTION 1. Any person, firm, copartnership or corporation engaged in the business of buying poultry, eggs, milk, cream or butter-fat for the purpose of manufacture, who shall with the intention of creating a monopoly or destroying the business of a competitor, discriminate between different sections, localities, communities or cities of this State by purchasing such commodity at a higher price or rate in one locality than is paid for the same commodity by said firm, copartnership or corporation in any other locality, after making due allowance for the difference, if any, in the actual cost of transportation from the locality of purchase to the locality of manufacture, shall be deemed guilty of unfair discrimination, and upon conviction thereof shall be punished by a fine not exceeding five hundred dollars or by imprisonment in the county jail not to exceed six months.

COMMISSION MERCHANTS.

(Act No. 184, Public Acts, 1913.)

AN ACT to regulate the business of selling farm products on commission, providing all commission merchants dealing in farm products shall be licensed, to provide against and punish fraud and deception in the sale of farm products on commission, and defining the duties of the State dairy and food commissioner relative thereto.

The People of the State of Michigan enact:

172. SECTION 1. As used in this article:

1. The term "commission merchant" shall include every person, firm, association and corporation, licensed under this article to receive, sell or offer for sale on commission within this State any kind of farm produce.

2. The term "farm produce" shall include all agricultural, horticultural, vegetable and fruit products of the soil, and meats, poultry, eggs, dairy products, nuts and honey, but shall not include timber products.

173. SEC. 2. On and after October first, nineteen hundred thirteen, no person, firm, association or corporation, whose principal place of business shall be located in any city in this State, shall receive, sell or offer for sale on commission within this State any kind of farm produce, without a license as provided in this article. Every person, firm, association and corporation in this State receiving farm produce for sale on commission shall annually on or before October first, file an application with the State dairy and food commissioner for a license to do a commission business in farm produce. Such application shall state the kind or kinds of produce which the applicant proposes to handle, the full name of the person or corporation applying for such license, and if the applicant be a firm or association, the full name of each member of the firm or association, the city and street number at which the business is to be conducted, and such other facts as the State dairy and food commissioner shall prescribe. Such applicant shall further satisfy the State dairy and food commissioner of his or its character, responsibility and good faith in seeking to carry on a commission business. The State dairy and food commissioner shall thereupon issue to such applicant, on payment of fifteen dollars, in cities of less than twenty thousand population, and twenty-five dollars, in cities of more than twenty thousand population, a license entitling the applicant to conduct the business of receiving and selling farm produce on commission at the place named in the application until the tenth day of October next following. Such license shall not be issued, however, to any applicant if during the preceding year a complaint from any consignor of farm produce for sale on commission shall have been filed with the State dairy and food commissioner against such applicant for any of the grounds specified in section four hereof, and such complaint shall have been established as true and just to the satisfaction of the commissioner after such complaint shall have been investigated by the commissioner in the manner provided by section three of this act.

174. SEC. 3. The commissioner and his assistants shall have power to investigate, upon the complaint of an interested person, or of his own motion, the record of any person, firm or corporation applying for a license, or any transaction involving the solicitation, receipts, transportation, sale or attempted sale of farm produce on a commission basis, including the making of charges in selling, carting, or other services, the failure to make proper and true accounts and settlements at prompt and regular intervals, the making of false statements as to condition, quality or quantity of goods received or while in storage, the making of false statements as to market conditions, or the failure to make payment for goods received or other alleged injurious transactions; and for such purpose may examine the ledgers, books of account, memoranda or other documents of any commission merchant and may take testimony therein under oath; but information relating to the general business of any such person, contained in such investigation and not relating to the immediate purpose thereof shall be deemed of a confidential nature by the commissioner, his assistants and employees. When a complaint is filed with the commissioner, he shall attempt to secure an explanation or adjustment; failing this, within ten days he shall cause a copy thereof, together with a notice of time and place for a hearing on such complaint, to be served personally, or by mail, upon such commission merchants. If served by mail such complaint and notice shall be directed to such commission merchant at his place of business and the postage prepaid thereon. Such service shall be made at least seven days before the hearing. At the time and place appointed for such hearing, which shall be within the county where the commission merchant is licensed to do business, the commissioner or his assistants shall hear the parties to such complaint, shall have power to administer an oath, and shall enter in the office of the State dairy and food commissioner a decision either dismissing such complaint or specifying the fact which he deemed established on such hearing.

175. SEC. 4. The State dairy and food commissioner may decline to grant a license or may revoke a license already granted, where he is satisfied of the existence of the following cases or either of them:

1. Where false charges have been imposed for handling or services, or charges other than as by a schedule agreed on by the parties, or other than those customary in the trade;

2. Where there has been a failure to account promptly and properly or to make settlements with intent to defraud;

3. Where there have been false statements as to condition, quality or quantity of goods received or held for sale on commission;

4. Where there have been false or misleading statements as to market condition with intent to deceive;

5. Where there have been combinations to fix prices below the market level;

6. Where there has been a continual course of dealings of such nature as to satisfy the commissioner of inability of the commission merchant to properly conduct the business, or of an intent to deceive or defraud customers;

7. Where the commission merchant directly or indirectly purchases the goods for his own account without prior authority therefor, or without notifying the consignor thereof.

176. SEC. 5. The action of the commissioner in refusing to grant a

license, or in revoking a license granted under this act, shall be subject to review by a writ of certiorari, and if such proceedings are begun; until the final determination of certiorari proceedings and all appeals therefrom, the license of such commission merchant shall be deemed to be in full force and effect, or if such license shall have been refused, such commission merchant shall not be deemed to have violated the provisions of this act, prohibiting the transaction of such business without a license, provided the fee for such license shall have been paid.

177. SEC. 6. The dairy and food commissioner shall publish in pamphlet form as often as he thinks is necessary, a list of all the licensed commission merchants.

178. SEC. 7. The funds received for the license issued under section two of this act shall be paid into the State treasury for the use and benefit of the State dairy and food department.

179. SEC. 8. If any shipper of farm produce to a commission merchant be dissatisfied with any statement relative to the sale of such shipment, he may apply to the State dairy and food commissioner, in writing, within sixty days of making such shipment, for an investigation. The State dairy and food commissioner shall treat such application as a complaint, and shall cause a full investigation of the transaction complained of to be made either by himself, or one of his assistants in the manner provided by section five of this act.

180. SEC. 9. Any person, who being a commission merchant in farm produce, shall (a) impose false charges for handling or services in connection with food products, or (b) fail to account for such food products, promptly and properly and to make settlements therefor with intent to defraud, or (c) shall make false or misleading statement or statements as to the market conditions with intent to deceive, or (d) enter into any combination to fix prices below market level, (e) directly or indirectly purchase for his or its own account, goods received by him upon consignment without prior authority therefor from the consignor, or shall fail to promptly notify the consignor of such purchase on his own account, shall be guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, and the cost of prosecution, or by imprisonment in the county jail or State house of correction and reformatory at Ionia, for not less than six months nor more than three years, or by such fine and imprisonment in the discretion of the court in each and every offense.

181. SEC. 10. Nothing in this act shall apply to retail dealers, real estate dealers or auctioneers selling farm products on commission.

UNWHOLESOME VEAL.

(Act No. 340, Public Acts, 1913.)

AN ACT to prevent and punish the sale of immature and unwholesome calves and veal.

The People of the State of Michigan enact:

182. SECTION 1. No person shall for the purpose of selling kill a calf less than four weeks old, and no person shall sell the meat of any such calf or have the same in his possession with intent to sell the same either by himself, his agents, or servants.

183. SEC. 2. Whoever shall do any of the acts or things prohibited by this act, or in any way violate any of its provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine of not less than twenty-five dollars nor more than one hundred dollars, and the costs of the prosecution, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment in the discretion of the court.

184. SEC. 3. This act is immediately necessary for the public health.

UNWHOLESOME FOOD FOR ANIMALS.

(Act No. 179, Public Acts, 1913.)

AN ACT to regulate, prevent and punish the feeding of the flesh of old, decrepit, infirm, sick or diseased animals and unwholesome offal to animals or fowls, and provide a penalty for the violation thereof.

The People of the State of Michigan enact:

185. SECTION 1. No person shall feed to animals or fowls the flesh of an animal which has become old, decrepit, infirm or sick, or which has died from such cause, or offal or flesh that is putrid or unwholesome.

186. SEC. 2. Whoever shall do any of the acts or things prohibited by this act, or in any way violates any of its provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine of not more than one hundred dollars and the costs of prosecution, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment in the discretion of the court.

187. SEC. 3. This act is immediately necessary for the preservation of the public health.

SUGAR BEETS.

(Act No. 69, Public Acts, 1913.)

AN ACT providing for State inspection of sugar beet testing, weighing and taring, the appointment of inspectors, and the payment for their services.

The People of the State of Michigan enact:

188. SECTION 1. The dairy and food commissioner of the State of Michigan shall select and appoint two inspectors of sugar beet testing, weighing and taring, who shall be competent sugar chemists, and sugar testers of practical experience.

189. SEC. 2. Said inspectors at all times shall have access to such laboratories and weigh stations as are maintained by manufacturers of sugar in the State of Michigan, and shall devote their time during the active working season to the inspection of the beet sugar factories of the State.

190. SEC. 3. The head of the department of chemistry at the Michigan State agricultural college, the state experiment station chemist, and the State analyst shall prescribe a uniform method to be used in weighing, taring and testing all sugar beets purchased in the State of Michigan, by manufacturers of sugar, whether such beets be received at weigh stations or at the factory or factories owned by such sugar manufacturers; and the method thus prescribed shall be used by all manufacturers of sugar, purchasing beets in the State of Michigan; but all beets shall be tested for sugar content in the beet laboratories at the beet sugar factories.

191. SEC. 4. Whenever a petition, requesting the inspection of the work at any sugar beet testing laboratory or weigh station, is signed by one or more sugar beet growers, who are contractors with the sugar company conducting the laboratory or weigh station they desire inspected, is forwarded to the dairy and food commissioner of the State of Michigan, it shall be the duty of an inspector to make the inspection requested, as soon as circumstances permit. And whenever any sugar manufacturer in the State of Michigan shall make complaint to the dairy and food commissioner concerning the conduct of any of the inspectors, beet chemists, weigh men or tare men, at any factory or weigh station, it shall be the duty of the dairy and food commissioner to cause an inspection to be made of the conduct of any such person so complained of, and to take such action as he may deem proper.

192. SEC. 5. The sugar companies shall keep a daily record which shall show the name of the seller of beets, the weight and sugar per cent of all beets delivered, and such records shall be accessible to the inspectors at all times.

193. SEC. 6. Each manufacturer of sugar in the State of Michigan shall render to the State treasurer, within thirty days after the close of the campaign each year, a sworn statement of the number of tons of sugar beets sliced, and shall pay an annual inspection tax of one-fourth cent per ton on all beets manufactured into sugar. Said fund shall be maintained by the State treasurer as an inspection fund for beet sugar

factories. The salaries and actual and necessary expenses and equipment of the inspectors appointed under the provisions of this act shall be paid out of the fund hereby created. The salaries of said inspectors shall not exceed the sum of two hundred dollars each per month.

194. SEC. 7. Any manager, officer or employe who shall refuse to admit to any beet sugar factory, or weigh station in operation in this State, an inspector having authority signed by the dairy and food commissioner of the State of Michigan; or who shall interfere with or obstruct any person so provided with such written authority in the exercise of any privilege, or in the discharge of any duty provided by this act, or who shall violate any of the provisions of this act shall be guilty of a misdemeanor, and shall be punished by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment in the county jail for not less than thirty days nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

195. SEC. 8. Each inspector appointed under this act shall before entering upon the duties of his office, subscribe to an oath to be prepared by the dairy and food commissioner that he will faithfully and impartially perform the duties of his office.

196. SEC. 9. All beet chemists, and all weigh men and tare men employed by beet sugar manufacturers in the State of Michigan shall before entering on their duties, take and subscribe to an oath, to be prepared by the dairy and food commissioner, to make just and impartial tests and correct weights, samples and tares, a copy of which oath shall be posted in a conspicuous place where said person is employed.

197. SEC. 10. All persons engaged in weighing beets for sugar factories shall be declared public weigh masters.

198. SEC. 11. Any beet chemist, weigh master, or tare man who has taken the oath of office herein prescribed, and who shall make any false or fraudulent test, or take any false or fraudulent sample, tare or weight, shall be guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than one hundred dollars nor more than five hundred dollars, or by imprisonment in the county jail not less than thirty days nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

199. SEC. 12. Any person who shall influence or persuade any chemist, weigh man or tare man to make any unfair or fraudulent test, tare or sample, or take any false or fraudulent weights, shall be guilty of a misdemeanor, and subject to a fine of not less than five hundred dollars nor more than one thousand dollars, or to imprisonment for not less than sixty days nor more than six months in the county jail.

200. SEC. 13. The dairy and food commissioner shall prepare copies of this act, which shall be posted by the manufacturers of beet sugar conspicuously where beets are weighed, tared or tested.

CERTIFIED MILK.

(Act No. 248, Public Acts 1911.)

AN ACT providing for the incorporation of medical milk commissions, and certification of milk produced under their supervision.

The People of the State of Michigan enact:

201. SECTION 1. Authority is hereby given the board of health of any city, village or township in this State, so constituted as to have in its membership two or more physicians duly authorized to practice medicine under the laws of this State, to appoint five physicians duly authorized to practice medicine under the laws of this State a medical milk commission for the purpose of supervising the production, transportation and delivery of milk, which it is intended to use for infant feeding, sick-room clinical purposes in said city, village or township. In cities, villages or townships not having a board of health so constituted as above stated, the State Board of Health may make such appointment. All members of such milk commission shall have and possess all the powers and immunities provided by this act or any other act relating to the appointees of such board of health, while performing their duties as such appointees. One member of such commission shall be appointed and hold office from the time of such appointment until the end of the thirty-first of December, nineteen hundred eleven, one shall be appointed and hold office until the end of the thirty-first of December, nineteen hundred twelve, one shall be appointed and hold office until the end of the thirty-first of December, nineteen hundred thirteen, and one shall be appointed and hold office until the end of the thirty-first of December, nineteen hundred fourteen, one shall be appointed and hold office until the end of the thirty-first of December, nineteen hundred fifteen, and until their several successors are appointed and qualified. The term of office of each member of the commission, after the termination of the aforesaid terms shall be five years, and on the expiration of any term a new appointment shall be made in the same manner above prescribed. No more than one milk commission shall be appointed for any one city, village or township. Any and all members of such commission may be removed at any time by the board which appointed them. Such medical milk commission shall make and file a certificate in writing in the manner hereinafter mentioned.

202. SEC. 2. Such certificates shall set forth:

The name of such association, which shall be as hereinafter designated;
The purpose for which the association shall be formed;

The names and residences of the medical directors who shall manage the affairs of the association for the first year of its existence;

The city, village or township in this State where such association shall operate.

[Am. by Act No. 196, P. A., 1913.]

203. SEC. 3. Such certificate shall be executed in triplicate and acknowledged before some person within this State authorized to take

the acknowledgment of deeds, and one copy thereof shall be filed in the office of the clerk of the county where the purposes of such association are to be carried out and one copy shall be filed in the office of the Secretary of State; said certificate or copy thereof duly certified by the said clerk or Secretary of State shall be evidence in all courts or places.

204. SEC. 4. The name of such association shall be "The Medical Milk Commission of the (stating whether city, village or township) of (designating the name of city, village or township) (designating the name of the county) County of Michigan."

[Am. by Act No. 196, P. A., 1913.]

205. SEC. 5. Such medical directors shall have the power from time to time to make, alter and amend by-laws not inconsistent with the constitution and laws of the United States and of this State, and to appoint such agents and officers as shall in their judgment tend to promote or advance any purpose or purposes of such commission, and to prescribe their respective duties; and for the regulating of the conditions under which milk shall be produced by any dairyman or dairymen under contract with such commission.

206. SEC. 6. No medical director of any association organized under this act shall receive, directly or indirectly, from such association or dairyman, or dairymen producing milk under agreement with such commission, any salary or emolument or any compensation of any kind or character for any services rendered under the provisions of this act, and any medical director who shall receive any salary, emolument or any compensation of any kind or character for such services, shall be liable to a penalty of one hundred dollars to be recovered in an action of debt by the association of which he is a member, and in addition thereto shall be removed from his office as a member of said association, and thereafter disqualified from becoming a member of any association incorporated under the provisions of this act.

207. SEC. 7. Every such association shall have the power to enter into agreement in writing with any dairyman or dairymen for the production of milk under the supervision of such association for the purposes enumerated in section one hereof, and to prescribe in such agreement the conditions under which such milk shall be produced, which conditions however, shall not be below the standards of purity and quality for certified milk as fixed by the American association of medical milk commissions, and the standards for milk now fixed or that may hereafter be fixed by the Board of Health of the state of Michigan. In any contract entered into by any such commission with any dairyman or dairymen, it may be provided that such medical milk commission may designate any analyst, chemist, bacteriologist, veterinarians, medical inspectors or other persons who in its judgment may be necessary for the proper carrying out of the purposes of such commission for employment of such dairyman or dairymen, and to prescribe and define their powers and duties, and that such persons so employed by such dairyman or dairymen may be discharged from employment whenever such medical milk commission may request such discharge or removal in writing.

208. SEC. 8. All containers of any kind or character used in the carrying or distribution of milk produced by any dairyman or dairymen under

contract with any medical milk commission shall have attached thereto or placed thereon a certificate or seal bearing the name of the medical milk commission with which such dairyman or dairymen producing such milk shall be under contract, which certificate shall have printed, stamped or written thereon the day or date of the production of the milk contained in any such container and the words "certified milk" in plain and legible form.

209. SEC. 9. The work and methods of any milk commission organized under this act and of the dairies of which milk is produced under contract with any such commission, shall at all times be subject to investigation and scrutiny by the local board of health and the Board of Health of the State of Michigan. The secretary of said State Board of Health and the local health officer shall be ex-officio members of every milk commission organized under this act.

210. SEC. 10. No person, firm or corporation shall sell or exchange or offer or expose for sale or exchange in any city, village or township as and for certified milk, any milk which is not certified by the medical milk commission of that city, village or township, and which is not produced in conformity with the methods and regulations for the production of certified milk from time to time adopted by the American association of medical milk commissions, and which is below the standards of purity and quality for certified milk as fixed by the American association of medical milk commissions.

[Am. by Act No. 196, P. A., 1913.]

211. SEC. 11. Whoever shall by himself, servant or agent sell, exchange or deliver or have in his custody with intent to sell, exchange or deliver, or offer or expose for sale in any city, village or township as certified milk, any milk which has not been certified by the medical milk commission of that city, village or township, or shall violate any of the provisions of this act, shall upon conviction thereof be deemed guilty of a misdemeanor, and shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment in the discretion of the court.

[Am. by Act No. 196, P. A., 1913.]

212. SEC. 12. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

OLEOMARGARINE IN PUBLIC INSTITUTIONS.

(Act No. 45, Public Acts of 1891.)

AN ACT to prohibit the use of oleomargarine, butterine, or any other substitute for butter in any of the public institutions of this State, and to provide the punishment therefor.

The People of the State of Michigan enact:

213. SECTION 1. That the use of oleomargarine, butterine or any other substitute for butter, in any of the public institutions of this state, be and the same is hereby prohibited, except in the penal institutions of the state.

[Am. by Act 233, P. A., 1913.]

214. SEC. 2. Any warden, superintendent or other officer of any such institution, who shall knowingly violate the provisions of section one of this act, or shall knowingly permit the same to be violated shall be deemed guilty of a misdemeanor and every violation shall constitute a separate offense and on conviction thereof shall be punished by a fine of not less than twenty-five nor more than one hundred dollars, together with costs of prosecution, or by imprisonment in the county jail of the county in which said institution is situated, not exceeding ninety days, or both such fine and imprisonment, at the discretion of the court.

MILK BOTTLES.

(Act No. 257, Public Acts of 1911.)

AN ACT to prohibit drivers of milk wagons and unauthorized persons from opening milk bottles, or in any way interfering with or molesting the caps or covers thereof after such bottles shall have been closed at the creamery, and during and after the process of delivery to patrons.

The People of the State of Michigan enact:

215. SECTION 1. From and after the date on which this act takes effect, it shall be unlawful for any driver of any milk wagon, or any distributor of milk, or any person whatsoever, except legally authorized milk inspectors and persons to whom such milk is delivered, to open milk bottles or in any way interfere with or molest the caps or covers of the same after such milk bottles shall have been closed at the creamery, or during the process of the delivery of said milk or, after said milk shall have been delivered in due course of business and in the ordinary manner.

216. SEC. 2. Any person violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof

in a court of competent jurisdiction shall be punished by a fine of not less than fifty dollars nor more than one hundred dollars, or by imprisonment in the county jail for not less than thirty days nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

FRUITS AND VEGETABLES.

(Act No. 207, Public Acts, 1913.)

AN ACT to prevent fraud and deception in the sale of Michigan grown fresh fruits and vegetables, and to provide penalties for violations of this act.

The People of the State of Michigan enact:

217. SECTION 1. In this act, unless the contents otherwise requires, the term "closed package" shall be construed to mean a barrel, box, basket, carrier or crate, of which all the contents cannot readily be seen or inspected when such package is prepared for market. Fresh fruits or vegetables in baskets or boxes, packed in closed or open crates, and packages covered with burlap, tarlatan or slat covers shall come within the meaning of the term "closed package." None of the provisions of this act shall apply to other than Michigan grown fruits and vegetables.

218. SEC. 2. Every person who, by himself or by his agent or employe, packs or repacks fresh fruits or vegetables in closed packages intended for sale in the open market, shall cause the same to be marked in a plain and indelible manner, as follows:

First, With his full name and address, including the name of the state where such fresh fruits and vegetables are packed, before such fresh fruits or vegetables are removed from the premises of the packer or dealer;

Second, The name and address of such packer or dealer shall be printed or stamped on said closed packages in letters not less than one-quarter inch in height.

219. SEC. 3. No person shall sell or offer, expose or have in his possession for sale, in the open market, any fresh fruits or vegetables packed in a closed package and intended for sale, unless such package is marked as is required by this act.

220. SEC. 4. No person shall sell or offer, expose or have in his possession for sale, any fresh fruits or vegetables packed in a closed or open package, upon which package is marked any designation which represents such fruit as "No. 1," "Finest," "Best," "Extra Good," "Fancy," "Selected," "Prime," "Standard," or other superior grade or quality, unless such fruit or vegetables consist of well grown specimens, sound, of nearly uniform size, normal shape, good color, for the variety, and not less than ninety per cent free from injurious or disfiguring bruises, diseases, insect injuries or other defects, natural deterioration and decay in transit or storage excepted.

221. SEC. 5. No person shall sell or offer, expose or have in his possession for sale, any fresh fruits or vegetables packed in any package in which the faced or shown surface gives a false representation of the contents of such package, and it shall be considered a false representation when more than twenty per cent of such fresh fruits or vegetables are substantially smaller in size than or inferior in grade to, or different in variety from, the faced or shown surface of such package, natural deterioration and decay in transit or storage excepted.

222. SEC. 6. Every person who, by himself, his agent or employe, knowingly violates any of the provisions of this act shall for each such offense, be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine not exceeding ten dollars, or by imprisonment in the county jail for a period not exceeding thirty days, or by both such fine and imprisonment in the discretion of the court.

TABLE GRAPES.

(Act No. 107, Public Acts, 1913.)

AN ACT to regulate the packing for shipment and sale of table grapes, and providing penalties for violation thereof.

The People of the State of Michigan enact:

223. SECTION 1. No grapes that are not ripe, or are the fruit of unhealthy vines, or are for any reason unhealthy or in a state of decay shall be packed for shipment by any grower, packer or shipper in any package or basket of less than sixteen pounds capacity.

224. SEC. 2. Any person or persons found guilty of violating any of the provisions of this act, in any court of competent jurisdiction, shall be deemed guilty of a misdemeanor and shall be punished by a fine of not less than ten dollars nor more than one hundred dollars, or by imprisonment in the county jail for not less than ten days nor more than ninety days, or by both such fine and imprisonment in the discretion of the court.

225. SEC. 3. It shall be the duty of the state dairy and food commissioner, his deputies and assistants, to enforce the provisions of this act.

COLLECTION OF REGISTRATION FEES BY CIVIL SUIT.

(Public Act No. 37, Session Laws, 1913.)

AN ACT to provide for the collection of registration, license and other fees due the state dairy and food department, by means of a civil suit in the state courts.

The People of the State of Michigan enact:

226. SECTION 1. Whenever any corporation, firm or person engaged as a dealer, manufacturer, storer or transporter of any food or beverage

product for man or animal, doing business within the state shall for thirty days after the same becomes due refuse or neglect to pay any registration or license fee which the laws of Michigan require said corporation, firm or person to pay to the state dairy and food department, the state dairy and food commissioner may bring a civil suit in the name of the people of the state of Michigan for the use and benefit of the state dairy and food department for the recovery of said registration or license fee.

227. SEC. 2. Said suit may be commenced in the circuit court for the county of Ingham or in the circuit court of the county where the principal business office of such defendant corporation, firm or person shall be located and shall be prosecuted in like manner as in civil suits between individuals, and judgment and execution may follow in like manner and costs may be recovered to be taxed as in other civil cases, and all moneys recovered shall be paid into the state treasury for the use and benefit of the state dairy and food department: Provided, That no suit as authorized by this act, shall be commenced until thirty days after the defendant in such suit has been duly notified of his or her delinquency, either personally or by registered letter.

228. SEC. 3. All expenses incurred by the state dairy and food commissioner under this act shall be defrayed by the state dairy and food department out of its annual appropriation.

DECEPTIVE ADVERTISING.

(Act No. 276, Public Acts, 1913.)

AN ACT to regulate and prohibit false, deceptive, fraudulent and misleading advertising in newspapers, periodicals or other publications, or by circulars or handbills.

The People of the State of Michigan enact:

SECTION 1. Any person, firm, corporation or association, or the agent or manager of any such firm, corporation or association who, with intent to sell or in anywise dispose of merchandise, securities, service or anything offered by such person, firm, corporation or association, directly or indirectly, to the public for sale or distribution, or with intent to increase the consumption thereof, or to induce the public in any manner to enter into any obligation relating thereto, or to acquire title thereto, or an interest therein, knowingly makes, publishes, disseminates, circulates, or places before the public, or knowingly causes directly or indirectly to be made, published, disseminated, circulated or placed before the public, in this State, in a newspaper or other publication, or in the form of a book, notice, handbill, poster, bill circular, pamphlet, or letter, or in any other way, an advertisement of any sort regarding merchandise, securities, service or anything so offered to the public, which advertisement contains any assertion, representation or statement of fact which is untrue, deceptive or misleading, shall be guilty of a misdemeanor and shall be punished by a fine of not less than twenty-five dollars nor more

than two hundred dollars, or by imprisonment in the county jail for a period of not more than ninety days, or by both such fine and imprisonment in the discretion of the court: Provided, That the publisher or printer of any newspaper or other periodical shall not be liable under this act for publishing deceptive advertising received from any other person: Provided further, That said printer or publisher is not aware of the deceptive character of the advertising so received.

MICHIGAN SUPREME COURT.

DECISIONS RELATIVE TO DAIRY AND FOOD LAWS.

PEOPLE v. SNOWBERGER.

(Opinion filed May 25, 1897.)

Adulteration of Food—Statutory Offenses—Intent—Police Power.

1. It is competent for the legislature under the police power, to provide for the protection of the public health by making it an offense punishable by fine and imprisonment to sell adulterated food or drink, irrespective of the seller's knowledge of the adulteration.
2. Act No. 193, Public Acts 1895, prohibits the manufacture or sale of adulterated articles of food or drink, and prescribes what shall be deemed adulteration within the meaning of the act. Section 8 forbids any person from *knowingly* offering for sale cheese which is falsely labeled; this being the only case in which knowledge is expressly made an element of an offense designated by such statute. *Held*, that proof of guilty knowledge or intent is not essential to the conviction of one who sells adulterated food.

(113 Mich. 86.)

Exceptions before judgment from Monroe; Kinne, J.

Michael Snowberger was convicted of selling adulterated food, in violation of Act No. 193, Public Acts of 1895.
Conviction affirmed.

William Look and Ira G. Humphrey, for appellant.

Bowen, Douglas & Whiting, of counsel.

Willis Baldwin, Prosecuting Attorney, for the people.

Long, C. J.: Respondent was convicted under an information charging that: "On the 19th day of April, A. D. 1897, at the city of Monroe, and in the county aforesaid, Michael Snowberger did offer for sale, and sell, to Carl Franke, an adulterated article of food, towit: A quantity of mustard, to wit, a quarter of a pound, colored and adulterated with

tumeric, whereby the said mustard, as an article of food, was damaged and its inferiority concealed and whereby it was made to appear of better and of greater value than it really was, the same not being a mixture or compound recognized as ordinary articles or ingredients of articles of food; contrary to the form of the statute in such case made and provided," etc.

The information was filed under Act No. 193, Public Acts 1895, entitled "An act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink." The act provides:

Section 1. "No person shall within this State manufacture for sale, offer for sale or sell any article of food which is adulterated within the meaning of this act."

Section 2. "The term food as used herein, shall include all articles used for food or drink, or intended to be eaten or drunk by man, whether simple, mixed or compound."

Section 3. "An article shall be deemed to be adulterated within the meaning of this act: One, If any substance or substances have been mixed with it so as to lower or depreciate or injuriously affect its quality, strength or purity; Two, If any inferior or cheaper substance or substances have been substituted wholly or in part for it; Three, if any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; Four, If it is sold under the name of another article; Five, If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or in case of milk, if it is the product of a diseased animal; Six, if it is colored, coated, polished or powdered, whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; Seven, If it contains an added substance or ingredient which is poisonous or injurious to health: Provided, That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale be distinctly labeled as mixtures or compounds, and are not injurious to health."

Section 19 makes any violation of the act a misdemeanor and provides a penalty by a fine of not less than \$100 nor more than \$500, or by imprisonment in the county jail, etc.

On the trial respondent admitted, that on the 19th day of April, 1879, he, at the city of Monroe, this State, offered for sale and did sell to Carl Franke a quantity of mustard, to wit, a quarter of a pound which was afterwards found upon a chemical examination to be colored and adulterated with tumeric, whereby the said mustard as an article of food was damaged and its inferiority concealed, and it was thereby made to appear of greater and better value than it really was; the same not being a mixture or compound recognized as an ordinary article or ingredient of articles of food.

But he claimed that said article of mustard, so sold was purchased by him as a pure article in good faith, and that he believed at the time of the purchase by him and also at the time of the sale to the said Franke, that the same was pure mustard, free from any coloring and adulteration with tumeric or any other coloring or adulterant, and that no inferiority was concealed whereby it was made to appear of greater or better value than it really was; that at the time he purchased the same he asked for pure mustard and that the same was warranted to him as pure; that he did not make or cause to have made a chemical examination of the same and did not inform himself or endeavor to ascertain the methods of determining pure from impure mustards, but relied upon the representations of

his vender and the appearance of the article to the eye; and that he did not intend to violate the law.

From such conviction respondent appeals.

It is the contention of counsel for respondent that it was the intent of the legislature to provide by the act that no person should be convicted and punished for selling adulterated food or drink without showing that he knew the same to be adulterated; that the information does not charge such knowledge, and the proofs disclosed that respondent acted in good faith and in the belief that the article sold was pure and unadulterated.

The act cannot be so construed. The offense under the act consists in selling an article intended to be eaten or drunk which is adulterated. Section 8 of the acts shows conclusively that the legislature did not intend to make criminal intent or guilty knowledge a necessary ingredient of the offense. As a rule there can be no crime without a criminal intent; but this rule is not universal.

In *People v. Roby*, 52 Mich. 577 (50 Am. Rep. 270), the respondent was convicted of the offense under the statute of keeping his saloon open on Sunday. It was there said: "It is contended that to constitute an offense under the section referred to (How. Stat., Sec. 2274), there must be some evidence tending to show an intent on the part of the respondent to violate it. * * * * The section under which Roby is prosecuted makes the crime consist, not in the affirmative act of any person, but in the negative conduct of failing to keep the saloon closed. As a rule there can be no crime without a criminal intent; but this is not by any means a universal rule. One may be guilty of the high crime of manslaughter when his only fault is gross negligence, and there are many other cases where mere neglect may be highly criminal. Many statutes which are in the nature of police regulations, as this is, impose criminal penalties irrespective of any intent to violate them; the purpose being to require a degree of diligence for the protection of the public which shall render violation impossible."

Many cases are cited in that case where convictions were sustained although the element of guilty knowledge was lacking. Thus in Massachusetts a person may be convicted of the crime of selling intoxicating liquors as a beverage though he did not know it to be intoxicating.

Com. v. Boynton, 2 Allen, 160.

And of the offense of selling adulterated milk, though ignorant of its adulteration.

Com. v. Farren, 9 Allen, 489.

Com. v. Nichols, 10 Allen, 199.

Com. v. Walte, 11 Allen, 264.

Com. v. Smith, 103 Mass., 444.

In Missouri a magistrate may be liable to the penalty for performing the marriage ceremony for minors without consent of parents or guardians, though he may suppose them to be of the proper age.

Beckham, v. Nacke, 56 Mo., 546.

Where the killing and sale of a calf under a specified age is prohibited there may be a conviction though the party was ignorant of the animal's age.

Com. v. Raymond, 97 Mass., 567.

In *People v. Welsh*, 71 Mich. 548, this court in speaking of *People v. Roby*, supra, said: "When a statute does not make intent an element of the offense, but commands an act to be done or omitted which in the absence of the statute might have been done or omitted without culpability, ignorance of the fact or state of things contemplated by the statute will not excuse its violation;" citing:

State v. Hartfel, 24 Wis., 60.

In the late case in this court of *Walcott v. Judge of Superior Court*, 112 Mich. 311, the relator, as prosecuting attorney of the county, filed an information against one Fred Saunders, charging him with being engaged in selling liquor without giving the bond required by the statute. The bond was fair upon its face, but one of the sureties, it appears, was disqualified under section 2283dl, 3 How. Stat. The information did not allege that respondent had knowledge of this defect in the bond. The information was quashed by the court below, and the relator asked the aid of mandamus to compel the respondent to reinstate the case. It was said by this court in the majority opinion: "It was the intention of the legislature to make the execution and delivery of the prescribed bond a condition precedent to sale, and to require the person desiring to engage in the business mentioned to assume the responsibility of knowing that the bond when presented complies in all essential particulars with the law. He must know that his sureties are males, that they are resident freeholders of the township, village or city in which the business is to be carried on, that they hold none of the offices prohibited by the act, and that at the time the bond is filed neither is a surety upon more than two bonds required by the act."

It appeared that one of the sureties was already upon more than two bonds; and the writ was granted compelling the respondent to reinstate the case. The case of *People v. Roby* was cited in that case in support of the proposition that intent was not an ingredient of the offense.

These regulations are under the police power of the State. Undoubtedly it was competent for the legislature to prohibit the sale of adulterated articles of food and drink. The police power of the State extends to the protection of the health as well as of the lives and property of the citizens. Generally it is for the legislature to determine what laws and regulations are needed to protect the public health and secure the public comfort and safety. If it passes an act ostensibly for the public health and thereby destroys or takes away the property of the citizen or interferes with his liberty it is for the courts to determine whether it relates to and is appropriate to promote such public health. Under the police power the conduct of individuals and the use of property may be regulated so as to interfere to some extent with the freedom of the one and the enjoyment of the other. It cannot be doubted that the legislature intended by this act to protect the public against the harmful consequences of sales of adulterated food, and to the end that its purpose might not be defeated to require the seller at his peril to know that the article which he offers for sale is not adulterated.

As was said by the supreme court of Ohio, in *State v. Kelly*, 54 Ohio St. 166: "If this statute had imposed upon the State the burden of proving * * * his knowledge of its adulteration, it would thereby have defeated its declared purpose."

In *state v. Smith*, 10 R. I. 260, the court, in speaking of the offense of selling adulterated milk, said: Counsel for defendant asked the court to charge that there must be evidence of a guilty intent on the part of the defendant and of a guilty knowledge in order to convict him. Our statute in that provision of it, under which this indictment was found does not essentially differ from the statute of Massachusetts, and there previous to the enactment of our statute the supreme court had determined that a person might be convicted although he had no knowledge of the adulteration; the intent of the legislature being that the seller of milk should take upon himself the risk of knowing that the article he offers for sale is not adulterated."

Statutes in many states have been passed providing that whoever sells, or keeps or offers for sale adulterated milk, or milk to which water or other foreign substance has been added shall be punished, etc. Under these statutes it has been decided many times that the risk is upon the seller of knowing that the article he offers for sale is not adulterated, and that it is not necessary in an indictment under such a statute to allege or prove criminal intent or guilty knowledge.

Com. v. Smith, 103 Mass., 444.

Com. v. Warren, 160 Mass., 533.

People v. Clipperly, 101 N. Y., 634.

The same rule that no criminal intent is necessary has been held to apply under an act forbidding the sale of oleomargarine or other imitations of dairy products, unless express notice be given to the purchaser.

Bayles v. Newton, 50 N. J. L., 549.

Com. v. Gray, 150 Mass., 327.

The English rule is in keeping with the doctrine in this country on this subject.

Roberts v. Egerton, L. R., 9 Q. B., 494.

The statute not requiring knowledge on the part of the seller to make the offense complete, we are satisfied that the conviction must be sustained. No case has been cited, and we are not able to find one, where a contrary doctrine is laid down. The act may work hardship in many cases; but that question is one to be addressed to the legislature and not to the courts. As we have said, it was within the power of the legislature to pass the act making it an offense punishable with fine and imprisonment to sell adulterated food or drink, although the person selling the same has no knowledge that it is adulterated. Under this statute one making sales must do so at his peril.

The conviction is affirmed.

Grant, J., did not sit. The other justices concurred.

PEOPLE v. WORDEN GROCERY CO.

(Opinion filed December 6, 1898.)

Constitutional Law—Act to Prevent Sale of Adulterated Vinegar—Complaint—Reasonableness of Statute—Defense.

1. The title to an act reading "An act in relation to the manufacture and sale of vinegar, and to repeal Act No. 224 of the Public Acts of 1889, approved, etc," held broad enough to support an enactment to prevent deception in the sale of vinegar or to prevent adulteration of vinegar.
2. A conviction for a sale of "fermented cider vinegar," which was not up to the standard prescribed by Act No. 71, Public Acts of 1897, may be had under a complaint drawn under section 2 of the act.
3. The question as to whether the requirements of an act passed to prevent the sale of adulterated vinegar are such as to render the act unreasonable, cannot be determined by the courts and does not raise a question of fact for determination by a jury.
4. Where a sample of vinegar is taken from a dealer for the purpose of testing it to see if it conforms to the standard required by law it is not necessary that a sample be left with the dealer.
5. A prosecution for a sale of vinegar in violation of Act No. 71, Public Acts of 1897, cannot be defended on the ground that the person so manufacturing or selling vinegar below the standard has no knowledge that it is not within the standard prescribed.

Error to the circuit court of Kent county; Allen C. Adsit, J.

Appeal of the Worden Grocer Co. from a conviction of a violation of Act No. 71, Public Acts of 1897. Affirmed.

Frank A. Rodgers, Prosecuting Attorney; Benn M. Corwin, Assistant Prosecuting Attorney, for the people.

Rood & Hindman, for respondent.

Long, J.: The complaint in this cause charges that the defendant: "On February 5, 1898, did unlawfully sell and deliver to John T. Owens of Benton Harbor, Michigan, a large quantity, to wit: One barrel of vinegar which was not then and there in compliance with the provisions of Act No. 71, Public Acts, 1897, in this, viz.: That said vinegar was sold as "fermented cider vinegar" and branded as such; that said vinegar contained less than one and three-fourths per cent by weight upon full evaporation (at the temperature of boiling water) of solids contained in the fruit from which said vinegar is fermented, to wit: One and fifty-one one-hundredths per cent of solids; and said vinegar contained less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar was manufactured, to wit: Eight one-hundredths of one per cent of ash or mineral matter, against the form of the statute in such case made and provided," etc.

The cause was commenced in the police court, and, being removed to the circuit, came on to be heard before a jury. The defendant refused to plead, and counsel for defendant thereupon made a motion to quash the complaint and summons for several reasons which will hereafter

be discussed. The court upon the trial directed a verdict of guilty, and the cause comes to this court on exceptions before judgment.

The title of the act reads: "An act in relation to the manufacture and sale of vinegar, and to repeal Act No. 224 of the Public Acts of 1889, approved," etc. Sections one and two of the act, being the sections in question, provide:

"Section 1. The People of the State of Michigan enact, That no person shall manufacture for sale, offer or expose for sale, sell or deliver, or have in his possession with intent to sell or deliver, any vinegar not in compliance with the provisions of this act. No vinegar shall be sold as apple, or orchard or cider vinegar, which is not the legitimate product of pure apple juice, known as apple cider or vinegar not made exclusively of said apple cider or vinegar into which foreign substance, drugs or acids have been introduced, as may appear upon proper test, and upon said test, shall contain not less than one and three-fourths per cent, by weight, of cider vinegar solids upon full evaporation at the temperature of boiling water.

"Section 2. All vinegar made by fermentation and oxidation without the intervention of distillation shall be branded 'fermented vinegar' with the name of the fruit or substance from which the same is made. And all vinegar made wholly or in part from distilled liquor shall be branded 'distilled vinegar,' and all of such distilled vinegar shall be free from coloring matter added during or after distillation and from color other from that imparted to it by distillation. And all fermented vinegar not distilled shall contain not less than one and three-fourths per cent, by weight, upon full evaporation (at the temperature of boiling water) of solids, contained in the fruit or grain from which said vinegar is fermented, and said vinegar shall contain not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. And all vinegar shall be made wholly from the fruit or grain from which it purports to be or is represented to be made, and shall contain no foreign substance and shall contain not less than four per cent, by weight; of absolute acetic acid."

It appears by the testimony that the defendant, a Michigan corporation doing business at Grand Rapids, on February 5, 1898, sold a barrel of vinegar to one John T. Owens of Benton Harbor. The sale is admitted. A sample of the vinegar was taken from this barrel and analyzed by the State Analyst, Mr. Fred H. Borradaile. The correctness of this analysis is not disputed. This analysis showed that the vinegar did not comply with the requirements of the statute in that it did not contain the amount of solids nor the amount of ash or mineral matter required.

The contentions made by counsel for defendant mostly relate to the validity of the act.

1. It is contended that the title to the act does not express any object; that the act was intended to prevent deception in the sale of vinegar, or to prevent adulteration of vinegar, but that no such object is expressed in the title; and that the act is therefore in conflict with section 20 of article 4, of the constitution of this State, which provides that: "No law shall embrace more than one object, which shall be expressed in its title."

We think this contention sufficiently answered by what was said by this court in *Soukup v. Van Dyke*, 109 Mich. 681. There the title was: "An act relative to justices' courts in the city of Grand Rapids." It was said: "The title is sufficient if it fairly and reasonably announces the object and that is a single one. If this requirement be observed, the legislature must determine for itself how broad and comprehensive shall be the object of a statute and how much particularity shall be employed in the title in defining it."

In *People v. Kelly*, 99 Mich. 82, the title under discussion was: "An act relative to disorderly persons, and to repeal," etc.

See also:

State v. County Judges, 2 Iowa, 280.

McAunich v. The Miss. & Mo. R. R. Co., 20 Iowa, 342.

2. Counsel contend that the complaint being drawn under section two of the act, no conviction can follow; that if any violation of the law be found, it is of section one and not of section two of the act; that, therefore, the complaint was drawn under the wrong section.

This contention cannot be sustained. It is plain from the reading of these sections that the legislature intended that all fermented vinegar should come up to the required standard, whether made from fruit or grain.

3. The defendant contends that the act is unreasonable and therefore void as beyond the police power of the State, in that the test for cider vinegar in regard to solids is arbitrary, unscientific and not calculated to accomplish the end sought by the legislature, viz.: To protect the public health against spurious vinegar; that such test is no test, because:

a. Said solids and ash are indifferent ingredients of vinegar from a hygienic standpoint.

b. Their comparative absence or presence is not an essential ingredient of pure apple cider vinegar.

c. A vinegar can be manufactured which will satisfy the requirements of the statute and yet contain no materials from apples or the product of apples.

d. A pure apple cider vinegar is frequently made which is below the requirements of the statute in solids and ash.

e. The less proportion of solids is a proof of greater purity in the vinegar and of its better keeping qualities.

These questions might very properly be addressed to the legislature, but are matters with which the court has nothing to do. It is not a part of the functions of the court to investigate the facts entering into questions of public policy merely. Under our system that power is lodged in the legislative branch of the government. It belongs to that branch to determine primarily what measures are appropriate or needful for the protection of the public morals, the public health or the public safety.

Barton v. McWhinney, 85 Ind., 481.

Mugler v. Kansas, 123 U. S., 660.

Powell v. Pennsylvania, 127 U. S., 685.

In *People v. Snowberger*, 113 Mich. 92, it was said by this court: "The act may work hardship in many cases, but that question is one to be addressed to the legislature and not to the courts."

The question of the reasonableness of the acts found in many states relative to the sale of milk below a certain standard has been frequently raised in the courts, and the acts upheld.

In *Com. v. Evans*, 132 Mass. 11, the court passing upon such a statute said: "The intention of the legislature and the practical operation of this section in connection with the third section is to provide that it shall be unlawful to sell milk containing less than thirteen per centum of milk solids. This belongs to the class of police regulations designated to pre-

vent frauds and to protect the health of the people, which it is within the constitutional power of the legislature to enact."

In *State v. Smyth*, 14 R. I. 100, the court said: "It was the purpose of the statute to prohibit, not only the dealing in milk which had been adulterated, but also in milk of such inferior quality as to fall below the standard named in section three. It is equally a fraud on the buyer, whether the milk which he buys was originally good and has been deteriorated by the addition of water or whether in its natural state it is so poor that it contains the same proportion of water as that which has been adulterated." See also:

State v. Newton, 45 N. J. L., 469.
Bertholf v. O'Reilly, 74 N. Y., 509.
State v. Campbell, 64 N. H., 403.
10 Am. St. Rep., 419.

But counsel contend that the reasonableness of this act is a question of fact for the jury to determine from the expert chemical evidence.

This question is neither for the court nor the jury to determine. In *People v. Clipperly*, 101 N. Y. 634, that very question was discussed and decided adversely to the claim here. It was said: "The defendant takes the broader ground that the legislature cannot under the constitution prohibit the sale of milk drawn from healthy cows which in its natural state falls below standard fixed by the act, unless such milk, or the articles made from it, are in fact unwholesome or dangerous to public health. How is that question of fact to be determined? The court cannot take judicial notice whether milk below the standard is or is not unwholesome or dangerous to public health. Is that to be a question for the jury? If so, the court must charge a jury in each case that if they find milk below that standard to be unwholesome, then the statute is constitutional; if they find it to be wholesome, then the statute is unconstitutional. Evidently a constitutional question cannot be settled, or rather, unsettled in that way. The constitutionality would vary with the varying judgments of juries."

In the emery wheel case before us, in *People v. Smith*, 108 Mich., p. 534, a somewhat similar question was discussed. It was said: "If the courts find the plain provisions of the constitution violated, or if it can be said that the act is not within the rule of necessity in view of facts of which judicial notice may be taken, then the act must fall; otherwise it should stand."

See also:

People v. Girard, 145 N. Y., 109.
(45 Am. St. Rep. 595.)

4. Counsel also contend that defendant was not allowed, nor could it obtain, a sample of the vinegar in question for analysis, and was deprived of the right to produce evidence as to the amount of solids in the vinegar; and was thus deprived of property without due process of law.

The record shows that the defendant was not prevented from getting a sample of the vinegar by any person interested in the prosecution of the suit. The record shows that the only effort it made to get such sample was a letter written to Mr. Owens who had bought and paid for the vinegar, requesting him to return it; to which the defendant received

no reply, and it does not appear that Mr. Owens had any of the vinegar left at that time. No sample was left with the defendant by the prosecution; nor was this necessary.

Com. v. Coleman, 157 Mass., 460.

5. This statute forbids the manufacture and sale of vinegar not in compliance therewith; and persons manufacturing or selling vinegar below the standard do so at their peril. It is no defense that the person so manufacturing or selling vinegar below the standard has no knowledge that it is not within the standard prescribed.

People v. Snowberger, 113 Mich., 86; 71 N. W. R., 497.

We have examined the other questions raised, but do not deem it necessary to discuss them. They relate mostly to offers of testimony which the court below ruled out; and, we think, properly.

The testimony was uncontradicted that the vinegar sold was not in compliance with the statute. The sale was admitted.

The court was not in error in directing the verdict. The conviction must be affirmed.

Grant, C. J., did not sit. The other justices concurred.

PEOPLE v. DETTENTHALER.

GROSVENOR v. JACKSON CIRCUIT JUDGE.

(Opinions filed December 6, 1898.)

Constitutional Law—Passage of Act Without Enactment Clause—Constitutional Provision Mandatory—Addition Clause by Governor—Act 76, Laws of 1897, Invalid.

1. The provision in the Michigan State constitution, found in Sec. 48 of Art. IV. that all laws shall be styled, "The People of the State of Michigan enact," is mandatory and the passage of an act without the enactment clause renders the act invalid.
2. The addition of the enacting clause by the Governor before affixing his signature will not render the law valid which was passed without an enactment clause.
3. Act No. 76, Laws of 1897, being "An act to prevent deception in the manufacture and sale of imitation butter" held to be invalid because of the passage of the act without an enactment clause was not rendered valid by the addition of such clause by the Governor before affixing his signature to the act.

Error to the superior court of Grand Rapids; Edwin A. Burlingame, judge.

Exceptions taken by Frank J. Dettenthaler from a conviction of a violation of the pure food law.—Reversed and no new trial.

Frank D. Rodgers, Prosecuting Attorney. (Rodgers, McDonald & Corwin of counsel), for the people.

Rood & Hindman and E. F. Sweet, for respondent.

Certiorari by Elliot O. Grosvenor, Dairy and Food Commissioner, to review the action of the Jackson circuit judge in denying a mandamus. Affirmed.

John G. Hawley and Benn M. Corwin, for relator.

Rood & Hindman and E. F. Sweet, for respondent.

Hooker, J.: These cases involve the validity of Act No. 76, Public Acts, 1897, which is as follows:

"An act to prevent deception in the manufacture and sale of imitation butter."

Section 1. The People of the State of Michigan enact, That no person, by himself or his agents, or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream from the same: Provided, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration, or ingredient, that causes it to look like butter.

Sec. 2. Whoever violates any of the provisions of section one (1) of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by a fine of not less than fifty dollars, nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail, or State House of Correction and Reformatory at Ionia, for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court for each and every offense.

Approved April 15, 1897.

The evidence in the first entitled cause shows that the defendant was convicted of the alleged offense of selling oleomargarine in contravention of this act.

In the other a complaint was made of a similar act to a justice, who refused to issue the warrant, and on application the circuit court denied a mandamus to compel it. The cases raise substantially the same questions, and were argued, and will be considered together. The validity of the law is questioned. The record shows that this was a senate bill and passed the senate without the constitutional enacting clause. The records of the house show that the bill was reported by the committee on agriculture and the committee of the whole, without amendment, and with the recommendation that it be passed. Under the head of "third reading of bills upon passage," the record of the house shows that "pending the third reading of the bill, Mr. Chamberlain moved that the bill be recommitted to the committee of the whole, which motion did not prevail. The bill having been read a third time, and the question being upon its passage pending the taking of the vote, Mr. Graham demanded the previous question. The demand was seconded. The question being, 'Shall the main question be now put?' The same was ordered. The bill was then passed, a majority of all the members elect voting therefor, by yeas and nays, as follows: * * * yeas 56, nays 19." As this is the

only time the bill was before the house, we must find that the bill passed the house without an enacting clause, unless the contrary can be shown by other evidence. Counsel undertook to show that it was amended in this particular, by the records of the senate, and the testimony of the clerk of the house. The evidence is in brief, that previous to the passage of the bill in the house the clerk noticed the absence of the enacting clause, and brought it to the attention of the house, and said that he would enter one, and accordingly wrote the words in the original bill, i. e., the one which was then before the house. He did not testify that the house took any action upon it, or that any record was made of it.

The senate record shows that the bill was subsequently returned to the senate, accompanied by a letter from the clerk of the house, reading as follows :

"House of Representatives,
"Lansing, April 7, 1897.

"To the president of the Senate:

"Sir—I am instructed by the House to return to the Senate the following bill: Senate bill No. 6, file No. 24, entitled

"'A bill to prevent deception in the manufacture and sale of imitation butter' and to inform the Senate that the House has amended the same as follows: By inserting in line 1, Section 1, after the words 'Section 1,' the words 'The People of the State of Michigan enact.'"

Very respectfully,

"LEWIS M. MILLER,

"Clerk of the House of Representatives.

"In the passage of which, as thus amended, the House has concurred by a majority vote of all the members elect."

It further appears that the senate concurred in such amendment.

We must determine, therefore, whether the house is shown to have amended the bill by inserting an enacting clause and if not whether the law is valid without it.

The most that can be claimed is that there is oral testimony, that the clerk announced its absence and stated that he would supply it. Inferentially perhaps we may say that there was no objection made, but the evidence is silent as to what, if anything, occurred. There is nothing but this inference of silence which imports acquiescence in the amendment. There is nothing to show definite action by the house which alone had power to amend the bill before it. So that if the clause is essential to the validity of the act we need not discuss the propriety of admitting parol evidence to prove an amendment which should be shown by the record if one was authorized.

See Attorney General v. Rice, 64 Mich., 391.

Hart v. McElroy, 72 Mich., 446.

Sackrider v. Supervisors, 79 Mich., 66.

Is the constitutional enacting clause a requisite to a valid law? This must depend upon whether the constitutional provision is to be considered a mandatory provision or directory merely.

See Constitution, Art. IV., Sec. 48.

Among the authorities cited by the relator in support of his contention, is that of Swann v. Buck, 40 Miss. 268. The constitutional provision is similar to ours, and it was held that a substantial compliance was

sufficient. In that case the style of the resolution was: "Resolved by the legislature of the State of Mississippi." The court was unable to discover a previous judicial decision of the question, but quoted Mr. Cushing to the effect that the prescribed "form must be strictly pursued, and that no equivalent language will be sufficient," and while declining to accept his rule said: "It is necessary that every law should show on its face the authority by which it is adopted, and promulgated, and that it should clearly appear that it is intended by the legislative power that enacts it that it should take effect as a law. These conditions being fulfilled all that is absolutely necessary is expressed. The word 'resolved' is as potent to declare the legislative will, as the word 'enacted.'"

The case of *McPherson v. Leonard*, 29 Md. 377, held that the provision of the constitution of Maryland was directory, and that the omission of the words, "by the general assembly of Maryland," did not render the law invalid. The question appears to have been treated as a new one.

The case of *Cape Girardeau v. Riley*, 52 Mo. 427, follows the Maryland case, in holding the provision directory; the court saying that after diligent search, no case holding to the contrary had been found. In this case, like the one before us, the entire enacting clause was wanting. In this connection we may add that previous decision of the same court, holding the provision that writs should run in the name of the state, was directory, were given weight. In our State a contrary holding will be found.

See *Forbes v. Darling*, 94 Mich., 621.

There are, however, cases which take a contrary view of the law, and adhere to the doctrine asserted by Mr. Cushing, and the late Mr. Justice Cooley, in his work on constitutional limitations, 6 Ed., p. 93, viz.:

"But the courts tread upon very dangerous ground when they venture to apply the rules which distinguish directory and mandatory statutes to the provisions of a constitution. Constitutions do not usually undertake to prescribe mere rules of procedure, except when such rules are looked upon as essential to the thing to be done; and they must then be regarded in the light of limitations upon the power to be exercised. It is the province of an instrument of this solemn and permanent character to establish those fundamental maxims and fix those unvarying rules by which all departments of the government must at all times shape their conduct, and if it descends to prescribing mere rules of order in unessential matters, it is lowering the proper dignity of such an instrument, and usurping the proper province of ordinary legislation. We are not, therefore, to expect to find a constitutional provision which the people, in adopting it, have not regarded as of high importance, and worthy to be embraced in an instrument, which, for a time at least, is to control alike the government and the governed, and to form a standard by which is to be measured the power which can be exercised as well by the delegate as by the sovereign people themselves. If directions are given respecting the times or modes of proceeding in which a power should be exercised, there is at least a strong presumption that the people designed it should be exercised, in that time and mode only; and we impute to the people a want of due appreciation of the purpose and proper province of such an instrument, when we infer that such directions are given to any other end. Especially when, as has already been said, it is but fair to presume that the people in their constitution have expressed themselves in careful and measured terms, corresponding with the immense importance of the powers delegated, and with a view to leave as little as possible to implication."

There are some cases, however, where the doctrine of directory statutes

has been applied to constitutional provisions, but they are so plainly at variance with the weight of authority upon the precise points considered that we feel warranted in saying that the judicial decisions as they now stand do not sanction the application.

The question arose in Washington territory over a law fixing the seat of government, and the opinion of Cushing was quoted and followed. 1 Wash. Ter. 116. The case of *Nevada v. Rogers*, 10 Nevada 250, decided in 1875, did the same. An extended discussion of the subject will be found in that case, in support of the proposition that the language of the constitution should be literally followed.

The opinion concludes with the following pertinent and emphatic language:

"Our constitution expressly provides that the enacting clause of every law shall be 'The People of the State of Nevada, represented in senate and assembly, do enact as follows.' This language is susceptible of but one interpretation. There is no doubtful meaning as to the intention. It is, in our judgment, an imperative mandate of the people in their sovereign capacity to the legislature, requiring that all laws to be binding upon them shall, upon their face, express the authority by which they were enacted, and as this act comes to us without such authority appearing upon its face, it is not a law.

The case of the *State v. Patterson*, 98 N. C. 662, is strong in its condemnation of the practice of treating constitutional requirements as directory. The case of *Powell v. Jackson*, 51 Mich. 130, is not in point, as the bill was duly and seasonably amended, if we may accept the statement of the briefs of the counsel and the syllabus.

The trend of the weight of the authority is in our opinion against the relator's contention.

It is urged with some plausibility that the insertion of this provision previous to the signature by the Governor is a sufficient compliance with the constitution, from which we understand the claim to be made that although the enacting clause was wanting when the bill came to the Governor it might have been supplied by him. But it is thought that this proposition is tenable only upon the assumption that the constitutional provision is directory merely. The Governor has no power to make laws. The legislative power is in no part vested in him, being by Sec. 1, Article IV, of the constitution, vested in the senate and house of representatives. It is not the design of the constitution that he should legislate. His office is a check upon the legislature and he may compel a reconsideration of a bill by seasonably returning it to the appropriate house with his objections to it, and when the legislature has adjourned his neglect to sign it prevents it from becoming a law, but he has not the slightest power in framing the law. Indeed, it is a fundamental principle in American constitutions that the executive shall not make laws. The following language from the opinion in the case of *State of Nevada v. Rogers*, 10 Nev. 250, is appropos to this subject:

"Without the concurrence of the senate the people have no power to enact any law. Every person at all familiar with the practice of legislative bodies is aware that one of the most common methods adopted to kill a bill and prevent its becoming a law, is for a member to move to strike out the enacting clause. If such motion is carried the bill is lost. Can it be seriously contended that such a bill, with its head cut off, could thereafter by any legislative action become a law? Certainly not. The certificates of the proper officers of the senate and assembly, that such an act was passed in their respective houses, do not, and could not impart vitality to any act which, upon its face, failed to express the authority by which it was enacted."

This being so, the only justification for the insertion of the enacting clause by the Governor is to be found in the assumption that it is a clerical omission of an unimportant matter and it might as well be held that one of the houses, or a clerk, or even the printer of the laws, might make the correction, as that the Governor might do it.

Some of the states have sustained laws without enacting clauses, but we do not know of one that has made their validity depend upon the unauthorized action of some officer or person. They have preferred to rest their action upon the well recognized distinction between mandatory and directory provisions. If the provision is mandatory that the law shall have a prescribed style and the making of laws is confined to the legislative branch of the government, it cannot be consistently held that omissions of essential parts of a law may be supplied and corrections made by persons without authority; and the public necessities should be much greater than in the present case, before such a proposition should be seriously considered. If on the other hand there is warrant for treating the provision as directory, a much less dangerous precedent is established. But as has been shown, the weight of authority forbids it, and in our opinion it will be an unfortunate day for constitutional rights when courts begin the insidious process of undermining constitutions by holding unambiguous provisions and limitations to be directory merely, to be disregarded at pleasure. In the present case it will be much better that the legislature shall correct its mistake, than that the courts shall sanction the irregular correction.

We are therefore constrained to hold that the law under discussion is void, and in the certiorari case the order is affirmed, in that of Detten-thaler the conviction is reversed and no new trial ordered. The other justices concurred.

GROSVENOR v. DUFFY.

(Opinion filed Septembr 18, 1899.)

Pure Food Law—Sale of Oleomargarine Colored to Imitate Butter—Constitutionality of Act.

The sale of oleomargarine colored with a harmless substance to imitate June butter, but which is sold and purchased as oleomargarine, is not in violation of section 3 of Act 118 of the Public Acts of 1897, being an act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink.

Certiorari to review the action of the Washtenaw circuit judge in refusing the application of Elliot O. Grosvenor, Dairy and Food Commissioner, for mandamus to compel John L. Duffy, justice of the peace, to issue a warrant. Affirmed.

Smedley & Corwin, for relator.

John J. Speed and J. P. Lee, for respondent.

The relator presented to a justice of the peace a complaint in writing,

charging that "Casper Rinsey did unlawfully offer and expose for sale, and did unlawfully sell and deliver to said Elliot O. Grosvenor, a large quantity, to wit, one pound of oleomargarine, which was then and there an article of food intended to be eaten by man, and which was then and there adulterated within the meaning of Act No. 193 of the Public Acts of Michigan for the year 1895, as amended by Act No. 118 of the Public Acts of Michigan for the year 1897, in this, to wit: that said oleomargarine was then and there an imitation of another article of food, to wit: an imitation of a rich June butter; and said oleomargarine had been and was then and there colored, whereby inferiority was concealed and by which means it was made to appear better and of greater value than it really was, to wit, in this: That it was thereby made to appear like butter of a grade which was then and there of a greater value than the said oleomargarine; that the said oleomargarine was labeled 'oleomargarine' and stamped with the seller's name; and that the tub and wrapper which contained the same bore the name and address of the manufacturer and was distinctly labeled oleomargarine."

"Said complainant on his oath aforesaid, further says, that he called for oleomargarine, and that the said oleomargarine was sold to him as oleomargarine the same as to an ordinary customer, freely and without objection, and that for this reason he did not take the steps required by section 6, Act No. 154 of the Public Acts of Michigan for the year 1897."

The justice refused to entertain the complaint and issue a warrant, whereupon the relator applied to the circuit court for Washtenaw county for the writ of mandamus to compel the justice to issue a warrant and proceed to hear the case. The circuit court refused the writ and the case is brought to this court by certiorari for review.

Grant, C. J. (after stating the facts). The title of the act reads "An act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink." Sec. 3, as amended by Act No. 118, Public Acts 1897, so far as it applies to this case, reads:

"An article shall be deemed to be adulterated within the meaning of this act: * * *

"Fourth—If it is an imitation of, or sold under the name of another article. * * *

"Sixth—If it is colored, coated, polished or powdered, whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is.

"Seventh—If it contains any added substance or ingredient which is poisonous or injurious to health: Provided, That nothing in this act shall prevent the coloring of pure butter: And provided further, That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale, bear the name and address of the manufacturer and be distinctly labeled under its own distinctive name, and in a manner so as to plainly and correctly show that it is a mixture or compound, and is not in violation with definition fourth and seventh of this section."

It is not claimed that the sale made by Rinsey violates subdivision seven. The act charged in the complaint is neither adulteration, fraud nor deception under any definition of these words to be found in any dictionary. Adulteration is "the act of corrupting or debasing, the act of

mixing something impure or spurious with something pure or genuine, or an inferior article with a superior one of the same kind."

Bouv., L. D., 126.
Century Dictionary.

Counsel do not urge that it comes within the word "fraud" or "deceit." Neither is it urged that the article is made to appear of greater value than it really is. It is not claimed that the coloring matter used is in the least deleterious. The law permits its use to color butter. Counsel rely upon *People v. Snowberger*, 113 Mich. 86. That case is not in point. The gravamen of the offense there was that the article of food was damaged, inferior, its inferiority concealed, and it was made to appear of greater value than it really was.

This brings us to the only question we need to determine, viz.: Is the title to the act broad enough to include the sale complained of? Would any person reading the title to the bill in the legislative journals, or elsewhere, suppose that the bill would make criminal an act which in itself was entirely harmless, honest, innocent and contained no element of wrong-doing? Or that it would change the well known definition of a word so as to include within it things which were in no sense akin to it and which could only be included in it by the most arbitrary legislative enactments? Would a manufacturer of, or dealer in butter or oleomargarine, be notified by the title that the harmless coloring of either was not only to be prohibited but to be punished by fine or imprisonment or both? There can be but one answer to these questions. When the legislature attempts to change definitions and to make acts criminal which per se are innocent and contain no element of wrong, there must be something in the title to show such purpose or object under Sec. 20, Art. 4 of the constitution. The title contains not even an intimation that an entirely innocent act is to be made a crime. It follows that this part of the act is void.

Bissel v. Wayne Probate Judge, 58 Mich., 237.
Northwestern M'fg Co. v. Wayne Circuit Judge, Id., 381.
McKellar v. Detroit, 57 Mich., 158.

This statute is assailed as unconstitutional upon other grounds. This disposal of the case renders it unnecessary to discuss them. How far the legislature may go, under the police power inherent in the State in prohibiting and punishing acts which in themselves are perfectly harmless, would be an interesting subject of inquiry, but as it is not necessary to a disposal of the case we decline to enter upon it.

Judgment affirmed. The other justices concurred.

PEOPLE v. SKILLMAN.

(Opinion filed March 4, 1902.)

Pure Food Law—Section 5022 C. L. Construed—Action Against Traveling Salesman.

A traveling salesman for a wholesale grocery firm, residing out of the State, took an order in this State for pure fruit jelly and forwarded the order to his employers. The order was filled with imitation fruit jelly. Information was filed against the salesman under section 5022 C. L., regulating the manufacture and sale of imitation fruit jellies. *Held*, That respondent was not guilty of violating the terms of the statute.

Error to the circuit court for Muskegon County. Fred J. Russel, judge.

Appeal of John Skillman from a conviction under the pure food law. New trial ordered.

Chas. B. Cross, Prosecuting Attorney, for the people.

Elliott O. Grosvenor and Smedley & Corwin, for respondent.

Moore, J.: An information was filed against the respondent which, omitting the formal parts, reads as follows: "That one John Skillman heretofore, to wit, on the sixteenth day of September, A. D. 1901, at the city of Muskegon, in the county of Muskegon aforesaid, did unlawfully offer for sale and did sell to Albert Towle a large quantity, to wit: a certain compound under the name of Quince Jelly which was then and there adulterated within the meaning of the Act No. 193 of the Public Acts of the State of Michigan of the year 1895, as amended by Act No. 118 of the Public Acts of the State of Michigan of the year 1897, as amended by Act No. 117 of the Public Acts of the State of Michigan of the year 1899, in this, to wit: That said compound was then and there made and composed in part of glucose, starch and other substances, and was then and there colored in imitation of fruit jelly contrary to the form of the statute."

After the testimony was all in, a motion was made asking the judge, for various reasons, to direct a verdict in favor of respondent. This motion was overruled. The case was submitted to the jury which returned a verdict of guilty.

A great many errors are assigned. We think some of them which we shall discuss are well taken, but as the case if ever tried again, will not present the same questions now presented by counsel we deem it unnecessary to pass upon all the questions argued by them in the briefs.

To sustain the case of the people testimony in substance as follows was introduced: It was shown the respondent had for some years been a traveling salesman in the employ of Reid, Murdock & Company of Chicago, that he solicited an order from Mr. Towle, a grocer in Muskegon, that Mr. Towle gave him an order for a case of assorted pure fruit jelly. Mr. Skillman did not have the goods with him, but reduced the order to writing in the presence of Mr. Towle at his store, and forwarded it to the house in Chicago. It is as follows:

"Reid, Murdock & Co., Chicago,
Sept. 12, 1901.

Name: Albert Towle.

Town: Muskegon.

State: Michigan.

Ship by Barry Line.

Salesman: Skillman.

1 c P. F. Jelly Med. Asst.....	100
1 c P. F. Jelly Med. Currant.....	100
60 days."	

"1 c P. F. Jelly Med. Asst." was explained to mean one case pure fruit jelly medium size assorted glasses. Mr. Towle testified Mr. Skillman claimed it was pure fruit jelly for which he took the order, and that was what he intended to buy. It was not shown that respondent had anything further to do with the transaction than as above stated. Later a case of goods was received from Reid, Murdock & Company and testimony was given tending to show that a tumbler of this jelly was sold to Mr. Bennett, inspector of the Dairy and Food Department of Michigan, and by him forwarded to the State Analyst, where it is claimed upon analysis it was shown to be a mixture of fruit juice, glucose, starch and coloring-matter. Upon the cross examination of Mr. Towle the following occurred:

"Q. Did you give Mr. Skillman more than one order for fruit jelly about this time? A. Well, he had two or three orders I think, two at least.

"Q. Two orders? A. One of them might have been ordered by mail.

"Q. Now you received two consignments of fruit jelly from the orders you had given to Mr. Skillman? A. I think so, yes, sir.

"Q. Upon which one of these orders did you receive this particular tumbler of jelly that you afterwards sold to Mr. Bennett? A. I couldn't say. The one that he bought was out of that order I think. (Witness pointing to order exhibited.)"

The defense claimed that the label "pure fruit jelly" placed upon the tumbler analyzed was put there by mistake. It was their claim that Reid, Murdock & Company dealt in two kinds of jelly, those made out of pure fruit and those made in imitation of pure fruit, and that when the imitation was sold in Michigan and certain other states their instructions were to label them "imitation," and that these instructions were furnished in writing to their agents, including the respondent, and they offered testimony tending to prove this claim. The written instructions were also offered in evidence, but with the testimony offered were excluded by the court.

Among other requests offered by the respondent was the following:

"Under the undisputed evidence in this case there is nothing to show that the respondent offered to sell any jelly in violation of any statute of this State, but, on the contrary, it is shown that respondent offered to sell strictly pure fruit jelly and sent such an order to Reid, Murdock & Company of Chicago, Illinois, and the charge in the information for selling and offering to sell adulterated jelly is not sustained by the evidence, and your verdict should be not guilty."

The judge refused to give this request, but charged the jury, "It is recognized by the legislators and is a matter of common knowledge that many of the wholesalers that are doing business in Michigan are not

residents of this State, so the legislature saw fit to make a law where a man solicited the sale of pure jellies, took an order for the sale of pure jellies, and in response to that order and offer, a different class of goods was furnished, that the party should be guilty of violating this particular law. In other words, instead of that order or offer and the furnishing of goods delivered to the party by a party who might be a non-resident of the State, that it should relate to the man who actually made the offer, the man who actually took the order for the furnishing of this particular article. The people claim that this is the matter in which this defendant here is liable."

This statement of the law is sought to be justified by *People v. Snowberger*, 113 Mich. 86, and *People v. Grocer Co.*, 118 Mich. 604, 71 N. W. 497, 67 Am. St. Rep. 449, 77 N. W. 315. A reference to these cases will show that the respondent in each of them admitted making the sale of the goods. In this case the respondent denies that he sold any goods coming within the provisions of the statute. Giving the only interpretation to the testimony as it appears in the record which can be fairly given to it shows Mr. Towle was solicited to give an order for pure fruit jelly. He gave such an order. It was reduced to writing and in the writing the jelly was described as pure fruit jelly. As before stated the only connection of the respondent with the transaction as shown by the record is the taking of an order for an article not within the terms of the statute and forwarding it. This does not constitute an offense. It might as well be urged that if a traveling salesman takes an order for Michigan beet sugar and forwards a written order for such sugar, and if the house, instead of filling the order as written, sends glucose with a label upon the package containing it calling it Michigan beet sugar the salesman would be guilty of an offense. This we do not understand to be the law. Upon the case as made the circuit judge should have directed a verdict of not guilty. *People v. Howard*, 50 Mich. 242, 15 N. W., 101.

The verdict is set aside and a new trial ordered.

Long, J., did not sit. The other justices concurred.

THE PEOPLE v. MORSE.

(Opinion filed June 3, 1902.)

Pure Food Law—Sales by Agents—Criminal Responsibility for Acts of Principal.

1. A traveling salesman who in good faith takes an order for "pure pepper," which is filled by his principal with impure pepper, is not guilty of a violation of Public Acts 1895, No. 193, forbidding the sale of impure foods.
2. Public Acts 1895, No. 193 (Pure Food Laws) Sec. 17, providing that the taking of an order for future delivery of any of the articles covered by the "act shall be deemed a sale, within the meaning of the act," does not make an agent absolutely responsible for the acts of his principal in filling the orders taken by such agent, and an order by the agent which is filled by the principal as an entirety may be, under the act, a sale of impure food, as to the principal, and yet not such as to the agent.

Error to circuit court, Muskegon county; Fred J. Russell, judge.

John W. Morse was convicted of a violation of the pure food law, and he brings error. Reversed.

Underwood & Umlor, for appellant.

Chas. B. Cross, Prosecuting Attorney, and George S. Lovelace, Assistant Prosecuting Attorney, for the people.

Hooker, J.: The brief filed on behalf of the people states that the case is similar to that of *The People v. Skillman*, 8 Detroit Legal News, 1090, 89 N. W. 330, and in effect concedes that the case must be reversed if we adhere to our former decision.

The defendant took an order for some pepper, as and for pure pepper, to be shipped to a dealer in Muskegon, by defendant's principal, a wholesaler in Chicago. The pepper when sent was not pure.

It is insisted that the *Skillman* case is at variance with the weight of authority elsewhere, and contrary to our own cases, in which it is said that we have held that a guilty intent on the part of a vendor, is not essential to an offense, under the pure food law (Public Acts 1895, No. 193.) It is further said that in the decision in the *Skillman* case, section seventeen of the act must have been overlooked or considered unconstitutional.

The transaction in which the order was taken did not involve an immediate delivery of pepper, then and there present. It is not shown that the sample, if there was one, was the same as the pepper subsequently sent, or that it was in the least impure. If it be conceded that the agent acted in good faith, and we understand that it is not questioned, he took an order for pure goods, and in doing that certainly committed no offense. It is now urged that the exigencies of the enforcement of this law are such, that we should hold that this innocent and lawful action, may be made a crime by the subsequent act of the principal, either intentional or inadvertent, in departing from, instead of performing the contract which his agent had innocently made. We think this is not so, and we are also of the opinion that this does not necessarily do violence to section seventeen. This transaction, as an entirety, may have been a sale of impure pepper under the statute as to the principal, and not as to the agent. If the order had been taken, with knowledge on the part of the agent of a practice to send impure pepper on such orders, a different question would be presented.

The judgment is reversed and a new trial ordered.

Long, J., did not sit. The other justices concurred.

PEOPLE v. ROTTER.

(Opinion filed June 24, 1902.)

Food—Oleomargarine Act—Constitutional Law—Statutes—Title—Object.

1. Public Acts 1901, No. 22, entitled "An act to prevent deception in the manufacture and sale of imitation butter," which in addition to forbidding sale of imitation butter, prohibits sales of colored oleomargarine, is not, on that account, open to the objection that the object is not expressed in the title, as required by Const. Art. 4, Sec. 20.
2. The act is not in contravention of the fourteenth amendment of the federal constitution.
3. The act is a valid exercise of the police power.

Error to circuit court, Emmet county; Frank Shepard, judge.

George W. Rotter was convicted of selling colored oleomargarine, and brings error. Affirmed.

Smedley & Corwin, Sears, Meagher & Whitney. (James F. Meagher and Kay Wood, of counsel), for appellant.

Horace M. Oren, Attorney General, and Matthew F. Guinon, Prosecuting Attorney, for the people.

Hooker, C. J.: At its last session, the legislature passed an act under the title, "An act to prevent deception in the manufacture and sale of imitation butter." Public Acts 1901, No. 22.

Section 1 of said act provides that:

"No person, by himself or his agents or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream for the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream of the same: Provided, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter."

Section 2 prescribes a penalty for the violation of the act.

The defendant was a grocer in Emmet county, and is shown to have sold a package of oleomargarine, which by an analysis was proven to have contained artificial coloring matter, and that said oleomargarine was not made wholly from unadulterated milk or cream from the same, and that it was made in imitation of yellow butter, produced from unadulterated milk or cream from the same. The court was asked to direct a verdict of not guilty upon the grounds:

- 1st. That the object of the act was not expressed in the title, as required by section 20 of article 4 of the Constitution of this State;
- 2nd. That the act violates the fourteenth amendment of the Consti-

tution of the United States, and article 6, section 32, of the Constitution of this State;

3d. That it was not within the police power of the State.

The evidence conclusively shows that no deception was used in selling the oleomargarine, and there is nothing to indicate that there was any harmful ingredient therein, but that, on the contrary there was not such ingredient. The defendant was convicted, and the case is here on exceptions before sentence.

It is contended that the title to the act indicates that the act was designed to prevent deception in the manufacture and sale of imitation butter, while the act attempts to go further and prevent all sales of such colored oleomargarine.

If oleomargarine colored yellow, closely resembles yellow butter, made from milk or cream, it cannot reasonably be said not to resemble or imitate yellow butter. Butter is a well known commodity. From time immemorial it has had but one origin, viz.: from the churning of milk or cream. Whatever may be said of the possibility of making a product from other compounds than milk or cream that shall closely resemble or be chemically identical with butter, the world has but one understanding of what is meant by the word "butter," and we must assume that such is the sense in which our legislature used the term. Compiled Laws, Sec. 50, Sub. 1.

A fair inference from this statute is that the legislature undertook to prevent deception, by preventing the sale of any yellow oleomargarine, and it undertook to accomplish this by the most effective means, viz.: by prohibiting the coloring of oleomargarine yellow, thereby avoiding the embarrassment which would otherwise arise from the necessity of proving in each case, that deceit was used in selling it, as and for butter. We think this is fairly within the title, whatever must be said of the other points raised. We are referred to the case of *N. W. Mfg. Co. v. Chambers*, 58 Mich. 381, 25 N. W. 372, 55 Am. Rep. 693, as conclusive upon this question; in which case it is said that "all that could be done under such a title would be to prohibit and prevent sale of such articles under false pretenses." We are of the opinion that this language is too restrictive, and that it is at variance with the settled doctrine in this State, that any provision, naturally calculated to accomplish the object expressed in the title may be included in the act.

See:

Soukup v. VanDyke, 109 Mich., 681.

People v. Worden Grocer Co., 118 Mich., 607.

The case cited was rightly disposed of upon another ground, and it is possible that the language above quoted should be considered a dictum. Moreover, the cases are distinguishable, for whereas, that act attempted to prevent all sales of imitation butter, and was therefore perhaps inconsistent with the title, which apparently contemplated lawful sales, the statute under consideration in the present case, does not prohibit sales of oleomargarine, which is not tainted with the prohibited ingredients.

It is unnecessary to discuss the other points at length for the reason that the uniform trend of judicial opinions is that such laws are valid.

State v. Meyers, 42, W. Va. 825; 35 L. R. A. 844.
 New Hampshire v. Marshall, 1. L. R. A. 51.
 Powell v. Penna., 127 U. S. 678.
 People v. Armsberg, 105 N. Y. 113.
 Butler v. Chambers, 36 Minn. 69.
 People v. Worden Grocer Co., 118 Mich. 604.
 People v. Armsberg, 105 N. Y. 123.
 State v. Crescent Creamery Co., 86 N. W. 107.
 State v. Ball, 46 Atl. Rep. 50.
 Commonwealth v. Van Dyke, 13 Pa. Sup. Ct. Rep. 484.
 Commonwealth v. McCann, 14 Pa. Sup. Ct. Rep. 221.
 Armour Packing Co. v. Snyder, 84 Fed. Rep. 136.
 Cap. City Dairy Co. v. State, 22 Sup. Ct. Rep. 120.
 Wright v. State, 41 Atl. Rep. 795.

We are of the opinion that the legislature had the power to pass this law, and its wisdom of policy is not for our consideration.

The judgment is affirmed and the court directed to sentence the defendant.

Long, J., did not sit. The other justices concurred.

PEOPLE v. PHILLIPS.

(Opinion filed Sept. 17, 1902.)

Food—Adulteration—Statutes—Oleomargarine—Yellow Butter.

1. The phrase "yellow butter," is used in Act No. 22, Acts 1901, making it an offense to sell or offer for sale oleomargarine colored in imitation of "yellow butter" made from pure milk or cream, of the same, means any butter produced from pure milk or cream thereof having a "perceptible shade" of yellow.

Error to circuit court, Kalamazoo county; John W. Adams, judge.

John W. Phillips was convicted of selling oleomargarine, in violation of Act No. 22, Acts 1901, and he brings error. Affirmed.

Frank E. Knappen and E. M. Irish, for appellant.

Sheridan F. Master, Prosecuting Attorney and Dallas Boudeman, for the people.

Moore, J.: The respondent was convicted of having on hand with intent to sell, and offering for sale oleomargarine, colored in imitation of yellow butter, contrary to the provisions of Act No. 22 of the legislature, passed at the session of 1901.

It is claimed by respondent this law is unconstitutional and is an invalid law. That question was decided in the very recent case of *People vs. Rotter*, against the contention of respondent, and need not be discussed here. It is urged as a matter of defense, and we quote from the brief of counsel, "that the statute is only aimed against the

imitation of a substance which the legislature recognizes as yellow butter, and

1. The court should take judicial notice that all butter with a trace of yellow in it is not the yellow butter of commerce.

2. That if this is not true as a proposition of judicial notice, and the court cannot know it, then the respondent should have been allowed to prove, if he could, that there was such a usage of commerce.

3. That the statute is vague and indefinite in not defining the elements of the statutory crime it attempts to carve out of an act innocent *per se*, in that it gives no standard for determining what the color of yellow butter is that is not to be imitated."

The trial judge charged the jury upon that branch of the case as follows:

"It is not necessary in this case for the people to have proved that the respondent himself colored the oleomargarine if you find beyond a reasonable doubt that it was colored. The offense is just as complete, so far as this is concerned, if the respondent purchased oleomargarine colored, as above indicated. The offense as above stated consists of having the oleomargarine colored as before indicated, in his possession, with intent to sell the same, or in exposing it for sale; and if the respondent sold it in the same condition as he bought it, there would be no defense in this case. The respondent, gentlemen of the jury, is not charged in this information with selling this article; and if you find beyond a reasonable doubt he sold it as claimed by the people in the testimony offered, you may consider this fact on the question of whether respondent had or did not have the article in his possession for the purpose of selling it. And you must not consider it for any other purpose. If you find beyond a reasonable doubt that respondent did sell the article mentioned in the information to the parties claimed by the people, that would satisfy the statute upon the question of intent to sell. It is not necessary in this case to entitle the people to a conviction, that the oleomargarine should have been colored to represent any particular kind of yellow butter. That is, such yellow butter as the statute mentions, and as I have indicated to you the statute mentions. If the coloring was put into it, and by using such coloring the oleomargarine was in imitation of light yellow butter, such as the statute mentions, that is yellow butter produced from pure, unadulterated milk or cream from the same, the offense is committed just the same, as if it had been colored to represent darker yellow butter. If you find it to have been oleomargarine and was colored in such a manner as to be in imitation of any kind of yellow butter, that would satisfy the statute upon the requirement of the question of color. Yellow butter I define to be any butter produced from pure, unadulterated milk or cream of the same having a yellow color.

"It is necessary in order for the jury to convict the respondent, for you to find beyond all reasonable doubt that the article in the package sold was colored in imitation of yellow butter produced from pure, unadulterated milk or cream of the same. If you find beyond a reasonable doubt under the testimony in this case that there was some coloring matter in this article still if you find that there was not enough coloring matter in this article to cause it to look like yellow butter having a perceptible shade of yellow, said butter having been produced from unadulterated milk or cream from the same, then you must acquit. But if you find beyond a reasonable doubt there was coloring matter in said article and sufficient coloring matter in said article and sufficient coloring matter therein to make it look like yellow butter, having any perceptible shade of yellow, said butter having been made from unadulterated milk or cream from the same, that would be sufficient so far as the requirement of the statute upon the question of coloration is concerned."

We think this was a proper construction of the language used in the statute.

The conviction is affirmed and the case remanded for further proceedings.

Long, J., did not sit. The other justices concurred.

PEOPLE v. JENNINGS.

(Opinion filed April 7, 1903.)

Adulteration of Food—Omission of Ingredients—Coloring Matter—Remarks of Court.

1. There not having been incorporated in the pure food law of 1895 (Public Acts of 1895, p. 358, No. 193), any specific formula for the manufacture of lemon extract, it is proper to resort to the United States Pharmacopoeia formula to determine of what lemon extract consists.
2. The pure food law of 1895 (Public Acts of 1895, p. 358, No. 193), is not intended to prevent manufacturers of articles of food from improving the same, so long as no infringement of the law or spirit of the act defining adulteration takes place.
3. The provisions of Comp. Laws, Sec. 5012, that an article shall be deemed adulterated, "second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; third, if any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it"—should be read together, and the provision first recited construed prohibiting the substitution for an essential ingredient of any cheaper or inferior substances.
4. Comp. Laws, Sec. 5012, declaring that an article shall be deemed adulterated, "sixth, if it is colored * * * whereby damage, or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is," does not preclude the use of coloring matter not injurious to health in any way.
5. It is improper for the court to refer to expert testimony as "boughten testimony."

Exceptions from circuit court, Muskegon county; Fred J. Russell, judge.

Charles W. Jennings was convicted of violating the pure food law, and brings exceptions. Reversed.

Charles A. Blair, Attorney General, and Charles B. Cross, Prosecuting Attorney, (Cross, Lovelace and Ross, of counsel) for the people.

Knappen, Kleinhans & Knappen and L. N. Keating, for defendant.

Montgomery, J. This is a prosecution under the Pure Food Law, so called. The defendant was convicted under an information charging him with selling a compound as a lemon extract which was adulterated within the meaning of Act No. 193, P. A. 1895, and was a compound in imitation of extract of lemon. The respondent was convicted and brings the case up on exceptions before sentence.

The evidence on the trial introduced by the defendant tended to show that lemon oil contains from three to ten per cent citral, so called,

and upwards of ninety per cent of so called turpenes; that these turpenes represent the oil property; that they are in reality the oil itself freed from the citral; that citral is the principal flavoring and odor-bearing property of lemon oil; that the tendency of turpenes in the oil of lemon is to deteriorate or become rancid by long standing, and that because of this the extract of spirits of lemon in which turpenes appear in usual quantities become turpentiney, both in smell and taste, and that for this reason it is undesirable to have turpenes present; that the turpenes have a biting taste, easily developing a turpentine taste, not the true flavor of the lemon fruit. There was also testimony tending to show that this fact created a demand for turpeneless oils and that turpeneless lemon oils had been manufactured and sold commercially for a considerable time.

On the part of the prosecution the testimony of the chemist of the Pure Food Department was to the effect that taking as a standard of extract of lemon the spirits of lemon as defined by the United States Pharmacopoeia formula that the extract produced by the respondent showed no lemon oil present. It further appears that spirits of lemon made according to the pharmacopoeia formula would contain from 25-100 to 35-100 of one per cent of citral. It also appeared that 30 per cent of alcohol appeared in the product made by respondent, and that according to the pharmacopoeia formula 80 per cent was used, and that it cost less to make the extract using but 30 per cent of alcohol than if 80 per cent was used. It was also shown that a trace of coal tar dye was found in the extract made by respondent, but it was conceded that there was nothing whatever injurious in the extract as prepared by Mr. Jennings. The extract sold by respondent was made by what is known as the shaking out process, the purpose being to make an extract that contains no oil and as little alcohol as possible, a product that simply contains the flavoring properties of the lemon oil without the turpenes. This system has been employed by Mr. Jennings and by other manufacturers for the past three years; and it is claimed that all the elements and properties of lemon oil remained except the turpenes and the testimony tended to show that the complete flavoring qualities are extracted by this process.

The circuit judge charged the jury as follows:

"In 1895 the Legislature of this State, thought it wise to pass a law relative to the adulterations of food and food products. Perhaps there may have been some amendments since that time, but that was the foundation of the law. That law covers lemon extract as it covers all other products that are sold on the market. It seems at the time the law was passed and since that time there hasn't been—there isn't incorporated within that law any special formula for the manufacture of lemon extract. Now, we can hardly say, gentlemen of the jury, that at the time of the passage of that law that the Legislature didn't have some recognized and defined standard by which these essences or extracts should be governed or controlled. I think it would be hardly fair to the Legislature to claim that there wasn't a standard they had in their mind at that time, and for the purpose of this case I will instruct you gentlemen that at that time and at this time this standard that appears here in the United States Pharmacopoeia is the standard recognized by the legislators of this State and the one to which—the one that is in force so far as it applies to the Pure Food Law of this State with reference to that particular product. And if this lemon extract is manufactured in conflict with that formula as I shall hereafter call your attention to it, and

you should find from the evidence, why it would be your duty to convict the defendant here.

"By that formula it appears that is necessary to have five per cent of lemon oil in the lemon extract and that lemon oil shall be cut by a sufficient quantity of alcohol to perform that act. Of course, you know that that means in common parlance it should dissolve the oil. In addition to that, as the evidence tends to show in this case, after those things are put together, the fluid, whatever it might be, would be nearly the color of water. As coloring there may be or should be five per cent of lemon rind, and those ingredients when added together would be lemon extract, and that, gentlemen, will be the standard as applied to the Pure Food Law of this State. Now, gentlemen, I don't mean by that statement that lemon extract cannot be manufactured by any other process except by that to which I have called your attention. I don't mean that. It is the claim of the defendant here that he has discovered a process by which he can manufacture lemon extract containing all of the qualities that lemon extract manufactured according to that formula would possess and not have entirely all of the ingredients in the first instance that are provided in the formula. And as I view this case, gentlemen, that is one of the important propositions in connection with this case—that, and the question of coloring—in the judgment of the court is the case, and that all of the testimony in the case here revolves itself about those two propositions.

"It is the claim of the defendant, as I say, he has discovered a process by which he can produce in this lemon extract all the qualities that would be produced by adding alcohol and lemon oil together, and that manufacturing it by that means he produces it chemically by taking a larger quantity of lemon oil and extracting certain parts of it. Now, gentlemen, if you find and are satisfied by the evidence in this case that after this lemon extract was manufactured as defendant here claims he did manufacture it possesses all the qualities in strength and otherwise that it would possess if manufactured according to this formula, he is not guilty under this law. That is, he is not guilty of manufacturing an impure article, unless there are certain other articles that enter into the case to which I call your attention. As I say, in the first instance, it is claimed that according to the formula it should be alcohol and five per cent of lemon oil. Now if by some other process he can manufacture from the lemon oil and alcohol a product that would contain all of the elements that these two elements would contain if so mixed, he would not be guilty so far that would be lemon extract except the color of it.

"It is conceded here by all parties in interest, I think, that the only object of the lemon peel is to produce coloring. But there is another element to which the prosecuting attorney has called our attention. The evidence tends to show, gentlemen, that if this product is produced as claimed here on the part of the defendant, that after production by this process that the product will be nearly white. As I say, if it contained all of the elements of lemon extract, I don't think he would be guilty under this law, and if you are so satisfied, of course, at that point it would be your duty to find a verdict of not guilty unless there is some other matter in which he has violated this law.

"There is another provision of this Pure Food Law that provides that ingredients shall not be colored. In this case it appears that after this fluid substance is produced which he claims is just the same as produced under this formula, that he desires to change it to a lemon color. In other words, he puts in an ingredient which he claims would produce the same effect as this lemon rind. What is the object, gentlemen, or what was the object of Mr. Jennings adding this color? If the object was by any means to make it appear better or of greater value than it really is; if that was the object in adding that product, of course it is your duty without any question to find this defendant guilty, because he hadn't any right to add that kind of a product or any other kind of a product to this fluid which he had produced and sell it for lemon extract, because that is a direct violation of one of the provisions of this Pure Food Law."

We think this charge presents fairly three question for consideration: First, whether the pharmacopoeia formula is to be considered as defining lemon extract; second, if so, whether an omission of ingredients not

essential to its purposes as a food product is a violation of the statute; third, whether the instruction relative to the addition of coloring matter should be sustained.

The statute defining what shall be deemed adulteration, so far as it relates to this case, declares that an article shall be deemed adulterated when: "First, if any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity; second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; third, if any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; fourth, if it is in imitation of, or is sold under the name of another article; * * * sixth, if it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is; seventh, if it contains any added substance or ingredient which is poisonous or injurious to health." Compiled Laws, Sec. 5012.

We are agreed with the circuit judge that in referring to articles of food and to protect the users thereof the legislature must have had in view some standard, and as lemon essence or lemon extract had therefore acquired a well-defined meaning we incline to the view that it is proper to resort to the pharmacopoeia formula for the purpose of determining what lemon extract consists of. Does it follow from this that the legislature intended to prohibit improvement in the manufacture of lemon extract? If a means should be discovered by which a larger percentage of the flavoring quantity of the lemon might be extracted would it be an infraction of this law that the manufacturer should use such larger proportion of the essential ingredient of the lemon extract? We think not. We think it is open to manufacturers to improve a common article of food so long as no infringement of the law or spirit of the act defining what shall be deemed adulteration takes place. According to the proofs offered by the defendant it is very clear in the present case no substance or substances have been mixed with this extract so as to lower or depreciate or injuriously affect its quality, strength or purity.

As to the second condition which amounts to adulteration the case is not so clear. This provides that if any inferior or cheaper substance or substances have been substituted wholly or in part for it, that it shall amount to adulteration. We think, however, this provision should be read in connection with the succeeding one, to-wit: "If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it." So construed the provision prohibiting the substitution of any inferior or cheaper substance, wholly or in part, for it means the substitution for an essential ingredient of such cheaper or inferior substance. Now if it be a fact, as the testimony on the part of the respondent tends to show, that it is a positive advantage to exclude the turpene wholly from the extract and to lessen the quantity of alcohol used, then the essential ingredients of lemon extract have not had substituted for them anything inferior or cheaper. We are aware that this view of the law may make it more difficult to establish the individual case, but as the statute is a penal statute it should receive a strict construction.

It follows from the views above expressed that the instruction of the learned circuit judge was erroneous inasmuch as the jury were told in

effect that if any ingredient of lemon essence as defined by the pharmacopoeia was wanting in this extract sold by the respondent that there should be a conviction. We think the instruction should have been that if the lemon extract sold by the respondent contained all the ingredients and in quantities such as prescribed by the pharmacopoeia which are adapted to use as food, and that nothing was eliminated except such ingredients as could be dispensed with without injury to the product as a food product there was no violation of the statute.

The only other provision of the statute involved is the sixth, which in effect prohibits coloring the article produced whereby damage or inferiority is concealed. The instruction upon this branch of the law was also erroneous if we are correct in our view of the main question. The elimination of non-essential ingredients from the extract certainly does not show damage or inferiority, and as the conceded facts are that the coloring matter employed was not injurious to health in any way this provision has no application.

The other questions discussed do not require special mention. It may be noted in passing that the circuit judge in referring to the testimony of expert witnesses spoke of it as boughten testimony. We think this expression was unfortunate. While it is proper for the jury to take into account the fact that expert witnesses are employed at an extra compensation paid them, the implication that the extra compensation necessarily amounts to a purchase of their testimony is hardly warranted; while the jury may consider this fact as bearing on their credibility, it is not proper that the court should intimate an opinion of that character.

The judgment should be reversed, and a new trial ordered.

The other justices concurred.

BENNETT v. CARR.

(Opinion filed July 14, 1903.)

Pure Food Law, Act 22, P. A. 1901, Construed—Sale of Yellow Oleomargarine.

Act No. 22 of the Public Acts of 1901 prohibiting the sale of oleomargarine except where it is "free from coloration or ingredient that causes it to look like butter," does not prohibit the sale of oleomargarine whose color is natural, genuine, and not an imitation, and the ingredients themselves naturally produce the color.

The term "ingredient," used in Act 22, Public Acts of 1901, does not refer to the ingredients essential to produce the article as defined by the legislature, but to an ingredient used to produce color.

Certiorari to the Circuit Court for Muskegon county, Fred J. Russell, judge to review an order denying the petition of John R. Bennett for mandamus to compel John M. Carr to issue a warrant. Order affirmed.

Charles A. Blair, Attorney General, and Cross, Lovelace and Ross, for relator and appellant.

Smith, Nims, Hoyt and Erwin for defendant and appellee.

Grant, J.: Relator is the inspector of the State Food and Dairy Department. On the 24th day of February, 1903, he made complaint before the defendant, a justice of the peace of the county of Muskegon, charging one Martin Aamondt with having sold one pound of oleomargarine contrary to Act No. 22 of the Public Acts of 1901. The respondent refused to entertain the complaint and issue warrant, on the ground that the complaint stated no offense under the provisions of said act, and that said act is unconstitutional and void. Relator thereupon applied to the circuit court for the county of Muskegon for the writ of mandamus to compel the respondent to issue said warrant, and proceeded with the examination. The circuit court sustained the action of the respondent, and the case is now before us for review upon certiorari.

The statute in question reads as follows:

"Section 1. No person, by himself or his agents, or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil, or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream of the same: Provided, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter." The complaint charges Mr. Aamondt with unlawfully selling one pound of oleomargarine "made wholly or in part of fat, oil or oleaginous substance or compound thereof, as follows, to wit:

Water	11.75 per cent
Butter Fat	1.34 per cent
Beef fat, lard and cottonseed oil.....	79.24 per cent
Salt and other mineral matter.....	4.54 per cent
Curd	3.13 per cent

Said article, product or compound not being then and there butter produced from unadulterated milk or cream from the same, and being then and there in imitation of yellow butter produced from unadulterated milk or cream from the same, and not being then and there oleomargarine in a separate and distinct form and in such manner as would advise the consumer of its real character, free from coloration or ingredient that would cause it to look like butter, but that the said oleomargarine was then and there of a yellow color in imitation of butter, said color not being then and there produced by the addition of any artificial coloring matter, but said color being produced solely by the said ingredients therein contained, the said ingredients hereinbefore set forth, having been selected and used in the manufacture of said oleomargarine in such manner and in such quantities and proportion as to produce the oleomargarine that was then and there in imitation of yellow butter produced from unadulterated milk or cream from the same, contrary to the form of the statute," etc.

The oleomargarine so purchased was manufactured in the city of Chicago, State of Illinois, by one Moxley, a resident of said city, and was sold by said Moxley to said Aamondt in the usual course of trade, and by said Aamondt was sold in the usual course of retail trade,

in the same form and condition, and in the original package, in which it was received by Aamondt from Moxley.

It is conceded that this oleomargarine has a yellow color similar to butter, but the color is not produced by any artificial coloring substance or ingredient used for the purpose of coloration, but is produced solely by the selection and use, in proper proportions, of the substantial, recognized, legal and necessary ingredients of commercial oleomargarine.

Does the complaint state an offense covered by the statute? The answer depends upon the construction to be given to the statute. The relator contends that the statute covers all products which look like yellow butter, and that it is immaterial whether such color is produced by some ingredient introduced for the purpose of causing the product to look like butter, or whether such color is produced by authorized and legal constituent food ingredients. The respondent contends that the statute is aimed only at the use of ingredients used solely for the purpose of producing the yellow color, and does not prevent the manufacture of an article whose color is natural, genuine and not an imitation. Penal statutes must be construed strictly and cannot be extended by construction beyond the intent of the act as expressed on its face. The conditions existing at the time the statute was enacted, and the mischief to be remedied, are important factors in construing penal statutes. Two acts covering the same subject must be construed as *in pari materia*, and, if possible, effect given to both. These are elementary rules of construction. At the time the statute in question was enacted the only method in use in causing oleomargarine to look like yellow butter was the introduction of some extraneous coloring matter. This was the mischief to be remedied. We clearly so understood in *People v. Rotter*, 9 D. L. N. 284; 91 N. W. Rep. 167, where, speaking through Chief Justice Hooker, we said of this statute: "The statute under consideration * * * does not prohibit sales of oleomargarine which is not tainted with the prohibited ingredient."

See also *People v. Phillips*, 9 Id. 393; 91 N. W. Rep. 616.

The legislature has defined oleomargarine which may be manufactured and sold in this State. Sec. 6, Act No. 147, Public Acts of 1899. It is conceded that the respondent has complied with this act. If we give the enlarged construction to the statute now in question, as urged by the relator, it follows that the legislature has prohibited the manufacture and sale of a valuable article of food, the natural color of which resembles yellow butter (itself almost universally colored by extraneous matter). The manufacturer of such a product, if he sold it at all, would be compelled to introduce some coloring matter so as to make it look unlike the yellow butter of commerce. These two statutes must be construed together. The article sold by the respondent is clearly authorized by the first act. The latter act does not in terms prohibit its sale and manufacture. It does prohibit the use of any substance for the sole purpose of producing yellow color. The use of such coloring matter was the sole mischief then known to exist, and the only danger to be apprehended and guarded against.

A similar statute was passed in New Jersey, and the like contention was made to support a conviction, and the court said: "To construe the statute so broadly would render it practically prohibitive of the

sale of all oleomargarine; for, of course, the compound must derive color from its ingredients, and such a prohibition has manifestly not been declared."

Ammon v. Newton, 14 At. Rep. 610; 50; 5 N. J. 548.

McCann v. Commonwealth, 48 At. Rep. 470; 198 P. A. St. 509.

Our statute is copied verbatim from that of Massachusetts. The Supreme Court of that State, in a case just decided, has held that the statute applies only to extraneous substances or ingredients which cause the product to look like butter, and not to cases where the ingredients themselves naturally produce the color.

Commonwealth v. Himberg, ————.

The Supreme Court of the United States so held in regard to the same statute.

Plumley v. Commonwealth, 155 U. S. 461.

The term "ingredient," used in the statute, does not refer to the ingredients essential to produce the article as defined by the legislature, but to an ingredient used to produce color. The maxim *noscitur a sociis* applies.

Under this disposition of the case it becomes unnecessary to discuss any constitutional question.

The order is affirmed.

The other justices concurred.

PEOPLE v. HARRIS.

(Opinion filed December 1, 1903.)

Food—Corn Syrups—Glucose.

1. Public Acts 1903, Act No. 123 forbids the sale of cane syrup or beet syrup mixed with glucose, unless the package containing the same be distinctly branded "Glucose Mixture" or "Corn Syrup," with the name and percentage of each ingredient contained therein plainly stamped thereon. Held, That a sale of syrup made of 90 per cent pure corn syrup and 10 per cent cane syrup, labeled "Victor Corn Syrup," and truthfully stating the ingredients composing it, is not in violation of the statute, in that it is not branded "Glucose, 90 per cent, and cane syrup 10 per cent."

Exemptions from circuit court, Kent county; Willis B. Perkins, judge.

Benjamin S. Harris was convicted of violating the "Act in relation to the sale of corn syrup" and brings exceptions. Reversed.

Respondent was prosecuted and convicted for a violation of Act No. 123 of the Public Acts of 1903, entitled "An act in relation to the sale of corn syrup," and reading as follows:

"Sec. 1. No person shall offer or expose for sale, have in his possession with intent to sell, any cane syrup, beet syrup, or glucose, unless the barrel, cask, keg,

can, pail or package containing the same be distinctly branded or labeled with the true and appropriate name; nor shall any person offer or expose for sale, have in his possession with intent to sell, or sell any cane syrup or beet syrup mixed with glucose unless the barrel, cask, keg, can, pail or package containing the same be distinctly branded or labeled 'Glucose Mixture' or 'Corn Syrup' in plain Gothic type not less than three-eighths of an inch square, with the name and percentage by weight of each ingredient contained therein plainly stamped, branded or stenciled on each package in plain Gothic letters not less than one-quarter of an inch square. Each and every package of syrup either simple or mixed shall bear the name and address of the manufacturer. Such mixture or syrups shall have no other designation or brand than herein required that represents or is the name of any article which contains a saccharine substance; and all brands or labels required shall be an inseparable part of the general or distinguishing label, and that the general or distinguishing label shall be that principal and conspicuous sign under which it is sold.

"Sec. 2. Whoever shall do any of the acts or things prohibited or neglect or refuse to do any of the acts or things required by this act or in any way violate any of the provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than twenty-five dollars nor more than one hundred dollars, or by imprisonment in the county jail for a period of not less than thirty days nor more than ninety days, or by both such fine and imprisonment in the discretion of the court."

The complaint charges him with the unlawful sale of "a two-pound can, two pounds, of a certain article, product and compound, to-wit: corn syrup, so-called, made wholly or in part of cane syrup and glucose as follows, to-wit: Cane syrup ten per cent, and glucose ninety per cent, said can containing said article, product and compound sold as aforesaid not being then and there stamped, branded or stenciled with the name and percentage by weight of each ingredient contained therein, to-wit: cane syrup ten per cent, glucose ninety per cent; but said article, product and compound sold as aforesaid was then and there stamped and branded as follows, to-wit: 'Cane syrup ten per cent, corn syrup ninety per cent,' against the form of the statute in such case made and provided, and against the peace and dignity of the people of the State of Michigan,"

Respondent moved to quash the complaint and warrant for two reasons: (1) they charged no offense; (2) the act authorizes the use of the words "Corn Syrup." instead of Glucose in the statement of the ingredients placed upon the can. The motion was overruled and the case proceeded to trial upon the following agreed facts:

1. The respondent sold on October 12, 1903, at the city of Grand Rapids, Michigan, the can of Victor Corn Syrup in question.

2. The label on said can of syrup sold, as stated in the complaint, contains the formula of contents of said can as follows: "Corn syrup, ninety per cent; cane syrup, ten per cent;" and is not branded or labeled as the people claim it should be, "Glucose, ninety per cent; Cane Syrup, ten per cent."

3. The Victor Corn Syrup in question is in fact composed of ninety per cent syrup made from corn, commercially called Glucose or Corn Syrup, and ten per cent of cane syrup.

4. Glucose contained in the Victor Corn Syrup in question is in fact a pure syrup made entirely from corn.

5. Grape Sugar, commercially known as Glucose, either solid or liquid, is a generic name for starch sugar as distinguished from the cane sugar.

6. A simple beet syrup is evidently the same as the simple cane syrup.

7. Originally, Glucose, which was first made from grapes, was, for the reason that starch sugars are identical with the sweet principle of grapes, termed, for a great many years, and until lately was known chemically and commercially as Grape Sugar.

8. Commercially, Glucose is now made in this country entirely from corn, although abroad it is still made from potatoes.

9. The consuming public does not understand that Glucose is a syrup made entirely from corn. On the contrary, it is claimed by the respondent that the public generally supposes Glucose to be an inferior product made from animal fat, or a product of the glue factory, while they do recognize corn syrup as being made from corn.

10. Glucose as made from corn and contained in Victor Corn Syrup in question, is entirely harmless and recognized generally by highest authorities as a valuable food product.

11. Glucose made from corn, in fact, costs, at the present time, owing partially to cost of raw material, more to produce, and sells for more in the markets, than manufactured cane syrup.

The court directed a verdict of guilty.

Grant, J.

Does the statute require respondent or manufacturers to state upon their labels that corn syrup consists of ninety per cent glucose? No such statute has come under the decision of other courts. It is a new question, and must be determined upon general principles of construction.

It is conceded that the label states the exact facts: that the article is made of ninety per cent pure corn syrup and ten per cent cane syrup; that it deceives no one; that Victor Corn Syrup is a valuable and pure article of food, and that the ingredient ninety per cent corn syrup "is entirely harmless and recognized generally by the highest authority as a valuable food product," whether it be called glucose or corn syrup. The term "glucose" is obnoxious to many, if not a majority, of the public, and is misunderstood by them. They do not know that in this country glucose is now made entirely from corn, and that the terms glucose and corn syrup are commercially synonymous. This fact is known to the manufacturers and perhaps the dealers. A prejudice exists against the term "glucose" because that material can be manufactured from many substances, including sawdust. In Europe it is made mainly of potatoes. By many it is associated with a glue factory. In this country corn syrup and glucose are not only commercially synonymous terms, but it is stated by counsel for respondent that they are permitted to be so used in all the other states. We have not verified this statement, but as it is not challenged we assume it to be correct.

We have, therefore, a valuable and healthful product, made from two pure, valuable and healthful ingredients, advertised and placed upon the markets for what it really is, without any deception, fraud or chance to injure the public in any way. Yet the contention on behalf of the people is that the legislature has enacted that in putting this product upon the market its manufacturers and sellers must attach to it a name obnoxious to the public, and, in fact, calculated to deceive them. When it is claimed that such innocent acts are made *malum prohibitum*, there

must be either an express provision of the statute so declaring, or the language of the statute must leave no other conclusion reasonable. This statute does not expressly require it.

The argument on behalf of the people is "that glucose made from corn is glucose, the simple syrup mentioned in and intended to be mentioned in said act." The further claim is "that had there been any intention on the part of the legislature to use the terms 'glucose' and 'corn syrup' interchangeably and as synonymous then the term 'corn syrup' would have been enumerated as one of the simple syrups." We do not think this reasoning at all conclusive. Prior to the enactment of this statute the law prohibited the sale of molasses, syrup or glucose unless distinctly branded or labeled with its true and appropriate name—or any mixture thereof, unless it was branded or labeled 'glucose mixture,' and the per cent in which glucose entered into its composition. C. L., Sec. 5024. The present act which repeals the provisions of the former act expressly permits the mixture to be labeled "glucose mixture," or "corn syrup," and forbids mixtures or syrups to have any other designation than required in the act so far as such designation "represents or is the name of any article which contains saccharine substance." It is a fair presumption that the legislature, in enacting this law, recognized the obnoxious character of the term "glucose" among the people, and permitted, and intended to permit, a mixture of corn syrup and cane syrup to be sold under the name of Corn Syrup. The title to the act provides for the sale of corn syrup, and in its body provides that when cane syrup is mixed with it, the manufacturers and dealers shall state the proportionate ingredients. The smaller amount of cane syrup used does not change the character of the general product, any more than salt changes the character of bread, or sugar that of cake, and the act permits the sale of the mixture as corn syrup. Syrup, as defined by the United States Department of Agriculture, "is the product obtained by purifying and evaporating the juice of a sugar producing plant without removing any of the sugar." Syrup thus obtained from cane is cane syrup; syrup so obtained from sorghum is sorghum syrup, and syrup so obtained from corn is corn syrup. There is no reason why corn syrup should be labeled glucose, and until the legislature have so ordered in language susceptible of no other construction, the law must be held not to bear that construction.

Conviction reversed, and respondent discharged.

Hooker, C. J., took no part in the decision. The other justices concurred.

PEOPLE v. HINSHAW.

(Opinion filed January 5, 1904.)

Pure Food Law—Adulterated with Harmless Ingredients—Act 193, P. A. 1895, construed.

The coloration of "Extract of Vanilla" with any substance to give it the appearance of greater strength is a violation of the pure food law, even though such coloring matter is harmless.

Act 193, P. A. 1895, as amended by Act 118, P. A. 1897, held constitutional.

Error to the circuit court for Saginaw county; B. A. Snow, judge.

Appeal of Emory H. Hinshaw from a conviction under the pure food law. Affirmed.

Charles A. Blair, Attorney General, and Frank A. Rockwith, Jr., and C. M. Browne, for the people.

Eugene Wilber for respondent and appellant.

Respondent was prosecuted and convicted of the unlawful sale of "Extract of Vanilla, which was then and there adulterated within the meaning of act number 193 of the Public Acts of the State of Michigan of the year 1895, as amended by act number 118 of the Public Acts of 1897, in this, to wit: That said extract of vanilla was colored by the addition of a foreign coloring matter, to wit: coal tar dye, whereby its inferiority was concealed, and whereby said extract of vanilla was made to appear better and of greater value than it really was."

Two errors are assigned.—(1) that the court erred in instructing the jury; (2) that the act is unconstitutional as repugnant to the Fourteenth Amendment of the Constitution of the United States.

Grant, J.: I. The instruction complained of is as follows:

"Now before the inferiority of an article can be concealed it must be necessarily first ascertained as to whether or not there is an inferiority in the article. If it is an inferior article and that inferiority is concealed by reason of the addition of foreign substance in this vanilla, and you are satisfied from the proof beyond a reasonable doubt of the fact, then he would be guilty, although he had no knowledge as to the foreign substance being in the bottle."

It appears that no such claim was made on behalf of the respondent upon the trial; no request was asked covering the points now raised. The only objections shown by the record to have been made are,—first, that the title is not broad enough to cover the provisions in the amendment of 1897; second, that the legislature has no power to prohibit and punish acts in themselves harmless; third, that the act is unconstitutional.

Even in criminal cases it is the duty of counsel to call the attention of the court to the points on which an instruction is desired. *People v. Ezzo*, 104 Mich. 311.

We, however, are of the opinion that the information charges the coloration to make an inferior article appear better and more valuable than

it really was, and is sufficient; and also that there was evidence to sustain the allegation. The State Chemist testified that the effect of the coal tar dye was to make the article appear of greater value than it really is, and that the people would think it stronger than it really was. It is true, his testimony was weakened by cross-examination, but not sufficient to take the question from the jury,—especially in view of the fact that no other purpose than to make the article appear better, is shown.

II. The use of coal tar dye being harmless, counsel for respondent insists that the case comes within the rule of the recent case of *People v. Jennings*, 94 N. W. R. 216; 10 D. L. N. 39. That case had not been decided when this case was tried. No such theory was advanced upon the trial. Even if it were, we, however, think the case is clearly distinguishable from *People v. Jennings*. The color given to lemon extract, which of itself is almost colorless, is no indication whatever of the strength of the extract or its value. Its color is a mere whim or caprice of the trade, and no more indicates the character and value of the extract than does the coloring matter, used to color butter, indicate its character and value. In this case vanilla resembles the color of the bean from which it is produced. Its strength and value are judged to some extent at least, under the evidence in this case, from its color. No other object is apparent from the use of the coloring than to make it appear of a quality better than it really is.

III. It is urged that the act is unconstitutional on account of the proviso "that nothing in this act shall prevent the coloring of pure butter." This act is similar in its provisions to that involved in *People v. Rotter*, 91 N. W. R. 167; and *People v. Phillips*, Id. 616. The constitutionality of such acts was there sustained and a discussion is unnecessary. *Capital City Dairy Co. v. Ohio*, 183 U. S. 238, 246, is decisive of the question.

The conviction is affirmed.

The other justices concurred.

The Pratt Food Company,

v.

Arthur C. Bird, Dairy and Food

Commissioner of the State of Michigan.

Montgomery, J.: The bill in this case is filed to restrain the defendant, his clerks and employes, from writing, printing, issuing, publishing or sending out any bulletin, writing, publication or notice to the effect that complainant's preparations sold as Pratt's Food for horses and Cattle, Pratt's Poultry Food, and Pratt's Animal Regulator, or either of them, are not licensed under Act No. 12 of the Laws of 1905, and warning the public against buying or selling these preparations.

The bill sets out that the defendant asserts and claims that these preparations come within the terms of the act, and that unless restrained by injunction he will so assert by bulletins issued to the trade, and by this method intimidate dealers and prevent their purchasing complain-

ant's products. (We are stating simply the substance of the averements in brief.) It is also asserted that the effect of such bulletins will be to destroy and ruin the complainant's trade and work irreparable injury.

Upon the hearing below the bill was dismissed, and the complainant appeals. Three questions are presented upon the record, first, whether in view of the case complainant is entitled to the remedy here invoked; second, whether Act No. 12 of the Public Acts of 1905 is constitutional; third, whether if it be constitutional the complainant's products come within the terms of the statute.

1. The statute in question is an amendment of Act No. 211 of the Public Acts of 1893, entitled "An act to provide for the appointment of a Dairy and Food Commissioner, and to define his powers and duties and fix his compensation," and by section 18 of the act it is provided that "Any manufacturer, company, person or persons who shall sell, offer or expose for sale or for distribution, in this State, any concentrated commercial feeding stuff used for feeding live stock, shall furnish with each car, or other amounts shipped in bulk, and shall affix to every package of such feeding stuff, in a conspicuous place, on the outside thereof, a plainly printed statement, clearly and truly certifying the number of net pounds in the car or package sold or offered for sale, the name or trademark under which the article is sold, the name of the manufacturer or shipper, the place of manufacture, the place of business, and a chemical analysis, stating the percentages it contains of crude protein, crude fibre, nitrogen-free extract and ether extract, all constituents to be determined by the methods adopted by the association of official argicultural chemists. Whenever any feeding stuff is sold at retail, in bulk or in packages belonging to the purchaser, the agent or dealer shall furnish to him a certified copy of the chemical analysis named in this section. The term concentrated commercial feeding stuffs as used in this act shall include linseed meal, cotton seed meal, pea meals, cocoanut meals, gluten meals, oil meals of all kinds, gluten feeds, maize feeds, starch feeds, mixed sugar feeds, hominy feeds, rice meals, oat feeds, corn and oat feeds, meat meals, dried blood, clover meals, mixed feeds of all kinds, slaughter house waste products; also all condimental stock foods, patented and proprietary stock foods, claimed to possess nutritive properties, and all other materials intended for feeding to domestic animals * * * " A penalty is provided for the violation of this provision.

It is strenuously insisted by the Attorney General that if it be conceded that the complainant's products do not come within the inhibition of this statute, yet no remedy by injunction exists, for the reason that the effect of issuing an injunction is to restrain the prosecution of a criminal proceeding. Numerous cases are cited, among them *Arbuckle v. Blackburn*, 113 Fed. Rep. 625; *State v. Wood*, 155 Mo. 425, and *Pre-digested Food Co. v. McNeal*, 1 Oh. N. P. 266.

In so far as these cases lay down the rule that a court of equity will not interfere to restrain a public officer from invoking the criminal law and instituting a prosecution for a violation of a statute they have our full approval. A court of equity will not transfer to its own jurisdiction the trial of a criminal case, and this though the prosecution may fall with some hardship upon the accused party. Nor, as a general proposition, will a court interfere to restrain the publication of a libel.

But we hold in *Beck v. Railway Teamsters' Protective Union*, 118

Mich. 497, that injunction will lie to restrain a combination of persons from acts which tend to ruin complainant's business by bringing to bear upon his customers intimidating and coercive means. The principle which should rule the present case is identical. If the acts which are threatened are unlawful it cannot be doubted that placing in the hands of every dealer in the State a bulletin which in effect threatens them with prosecution in case they make use of these products in the form in which they are lawfully sold to them would be to absolutely exclude complainant's business from the State. The case presented is very similar in this aspect to that of *American School of Magnetic Healing v. McAnnulty*, 187 U. S. 94, which case involved the right of the Postmaster General to exclude the complainants from the use of the United States mails. An order had been made excluding complainants from the use of the mails. The court interfered and held that such order was a violation of the property rights of the persons affected and granted relief.

2. Is the law constitutional?

It is claimed that the law is unconstitutional in that it violates Section 20 of Article IV of the constitution, which provides that no law shall embrace more than one object, which shall be expressed in its title.

It is established by our decisions that if what is introduced by way of an amendment to an act might have been incorporated in the act under the original title there is no violation of this section. *People v. Gadway*, 61 Mich. 285; *Attorney General v. Bolger*, 128 Mich. 355.

The question is therefore whether under the original title a provision fixing a standard of pure food and providing means to prevent deception in the sale of such food is within the title of an act to provide for the appointment of a Dairy and Food Commissioner and to define his powers and duties and fix his compensation. We think the title is within our previous decisions sufficient. It is obvious to one reading this title that there must have been imposed upon the commissioner certain powers and duties to make his Department of any value to the State, and furthermore that these powers and duties must have relation to something. It is equally obvious that the relation of these powers and duties must be to the subject which is brought within the Department that is created, viz., the Dairy and Food Department.

The title is very similar to that which established the Insurance Bureau. In *Connecticut Mutual Life Ins. Co. v. State Treasurer*, 31 Mich. 6, it was held that a title which read "An act to establish an Insurance Bureau" was sufficiently broad to cover any pertinent regulations respecting the bureau's course of action towards those engaged in insurance, and any appropriate provisions for prescribing the duty due from the insurance companies to the State in the matter of taxation, without violating the constitutional provisions.

3. The question of more difficulty is the question of fact as to whether the preparations of complainant are concentrated commercial feeding stuffs as defined by the act cited above.

It is true the testimony shows that upon each of the labels which accompanied Pratt's Food for Horses and Cattle was the statement: "Pratt's Food is a regulator, to be used according to directions, and is not sold as a feeding stuff, nor is it to be fed in place of grain or any other feed." But in addition to claiming medicinal properties for the food it was also stated how it should be used to fatten and

improve stock. It was stated that "It fattens both cattle and hogs quickly, makes them grow larger and healthier and make their meat tender, more juicy and better eating." It also stated that for horses it "produces bone, muscle and better staying powers; improves the wind."

When this statute was enacted commercial feeding stuffs were on the market and this fact must have been known to the Legislature.

In employing the broad language "All condimental stock foods, patented and proprietary stock foods, claimed to possess nutritive properties and all other materials intended to cover all preparations for which the claim of nutritive qualities was made." Complainant's preparations come within this language.

Similar representations were made in the labels of other preparations.

We are of the opinion that the Circuit Judge was right in holding that all these preparations were within the statute.

The decree is affirmed with costs.

Pierre Viaus Maple Company, Complainant, v. Arthur C. Bird, Dairy and Food Commissioner, and Joseph Schnitzer, Inspector of the Dairy and Food Department, Defendants. Before Grant, C. J., Blair, Montgomery, Ostrander and Hooker, JJ.

Complainant is the manufacturer of a brand of syrup known as the "Pierre Viaus Pure Canadian Maple Syrup and Cane Syrup." The trade-mark being the letters P. V. The bill alleges that the Canadian Pure Maple Syrup exceeds the amount of Cane Syrup. It sets forth efforts made with the Pure Food Commission to agree upon a label which shall comply with the law, the failure of these negotiations, the representations made to the trade by the defendants that the sale of this syrup is illegal, and the injurious effect upon the complainant's business, and prays that the defendants be restrained from in any manner interfering with its business. To this bill of complaint the defendants demurred upon the ground that the syrups mentioned in said bill of complaint are not labeled as required by the laws of this State. The demurrer was overruled and the defendants have appealed.

Grant, C. J.

It is urged by the Attorney General that the sale of this mixture is in violation of section 5007 of the Compiled Laws, reading as follows:

"That it shall be unlawful for any person, dealer, firm, manufacturer or corporation to manufacture and sell, or offer for sale, any maple sugar, maple molasses or maple syrup that is in anywise adulterated with common sugar, beet sugar, glucose or any other foreign substance without distinctly marking, stamping or labeling the articles or the package containing the same with the true and appropriate name of such article and the percentage in which common sugar, beet sugar, glucose or any other foreign substance enters into the composition of the same."

It is urged by the complainant that the case falls within Act 193, Public Acts of 1895, known as the Pure Food Law, and entitled "An act to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink."

Sec. 1 (C. L. 5010) of the act prohibits the sale or having in possession with intent to sell any article of food which is adulterated within the meaning of the act.

Sec. 2 (C. L. 5011) defines the term "food" to include all articles used for food or drink.

Sec. 3 (C. L. 5012) states what articles shall be deemed to be adulterated. The section closes with the following proviso:

"Provided further, That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for sale bear the name and address of the manufacturer and be distinctly labeled under its own distinctive name, and in a manner so as to plainly and correctly show that it is a mixture or compound, and is not in violation with definitions forth and seventh of this section."

The court held that this syrup came within the Pure Food Law (Act 193), and not under the act prohibiting the adulteration of maple sugar, etc., and that it came within the proviso above quoted.

We think the court was in error. The act in regard to the manufacture and sale of maple sugar is complete in itself, and covers the entire subject. It was intended to prohibit the manufacture and sale of maple sugar under any name without labeling the product with the true and appropriate name, stating thereon the percentage of any other ingredient used in its manufacture. The title of the act is "An act to prohibit the adulteration of maple sugar, maple molasses and maple syrup." The word "adulteration" in this statute means the mixture of any foreign substance, wholesome or unwholesome, with maple sugar. the evident purpose of the statute is to compel all persons manufacturing or selling maple sugar to inform the public not only of what the product is composed, but the proportions of each article used in the manufacture.

Decree reversed, and the bill dismissed with costs of both courts.

Armour & Co., Complainants,

v.

Arthur C. Bird, State Dairy and Food Commissioner,
et al., Defendants.

Before: Blair, C. J., Grant, Montgomery, Ostrander, Hooker, JJ.:

Complainant is a corporation organized under the laws of the State of New Jersey, with headquarters in Chicago, Illinois. It is and has been, for many years, engaged in the manufacture and sale of fresh and cured meats and sausage and other meat products. Its sale of these products, including sausage, extended over the entire State of Michigan.

In the year of 1906, the defendant, the Dairy and Food Commissioner, caused chemical examination to be made of the various brands of sausage sold within the State, including that of the complainant, and found that many of them contained cereals and a percentage of water greater than that found in meat alone. On January 16, 1907, he issued the following circular:

"Gentlemen:—A growing tendency on the part of manufacturers of sausage, bolognas and similar meat products, to use various preparations and substances foreign to the legitimate ingredients necessary to the manufacture of these articles of food, the said preparations being commonly known and designated as fillers, binder, etc., has prompted this Department to make a thorough investigation into such sausages. This has been done for the purpose of ascertaining the true reasons for the widespread practice of using the preparations mentioned.

The results obtained from the investigation as carried on in the Department laboratory lead to but one conclusion, viz., that the addition of so-called binders and fillers to meat products is primarily for the purpose of substituting in part an inferior or cheaper substance for legitimate ingredient, thereby lessening the cost of manufacture.

The first and second subdivisions of section 5012 of the Compiled Laws provide that an article shall be deemed to be adulterated within the meaning of the act,—first, if any substance or substances have been mixed with it so as to lower or depreciate or injuriously affect its quality, strength or purity; second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it. Basing its ruling on the subdivisions of section 5012 above cited, this Department holds that the addition of the so-called binders and fillers mentioned to meat products is contrary to law. From and after this day, manufacturers and dealers will be held to a strict account for each and every violation: Provided, however, That dealers within this State are given until January 25, 1907, to dispose of stocks on hand.

Yours very truly,

"A. C. BIRD,

"State Dairy and Food Commissioner."

This circular was sent to all the meat dealers of the State, and a copy sent to the complainant at Chicago. Those employed under the direction of the defendant Food Commissioner also verbally informed the retail dealers of the State that they would be prosecuted if they did not comply with the above order. The trade of the complainant in Michigan was very large, and the effect of this circular, and the threats of prosecution verbally made, naturally tended to decrease very largely the complainant's sales in this State, and to cause it considerable loss. Therefore, on November 18, 1907, complainant filed its bill of complaint in this cause, setting forth the above circular and threats on the part of the defendants, the injury to its business, that defendants were acting illegally in their conduct, and praying that they be restrained from "declaring in any manner, orally or in writing, to the customers and patrons of your orator, or to the people of the State of Michigan, that the sausages and other meat products of your orator containing cereal, manufactured and sold, and offered for sale in the State of Michigan,

are sold and offered for sale in violation of any statute of the State of Michigan." The bill alleges that the sausage manufactured and sold by the complainant bear labels showing their respective ingredients, in accordance with the standard fixed by the laws of the United States and the regulations of the Department of Agriculture thereunder, a sample of said labels being set forth in the bill and reading as follows:

ARMOUR'S "DEVONSHIRE" Farm Style SAUSAGE MEAT. Made from the Meat of Hams and Selected Young Pork. Prepared with choicest spices and cereals. Armour & Company.

U. S. Inspected and passed under the Act of Congress of June 30, 1906. Establishment 2 A.

An answer was duly filed denying that the sausage manufactured and sold by the complainant in this State containing cereals and water is a wholesome product, or that it is manufactured in accordance with the Act of Congress of June 30, 1906, and the regulations of the United States Department of Agriculture; or that it is a compound or mixture within the meaning of the proviso of Sec. 3, Act 193, Public Acts of 1895, as amended. The answer admits that the sausage of the complainant is shipped into this State in packages, or boxes, labeled with the trade name of the sausage, and the words "with cereal," but alleges that the consumer, or purchaser of the retail dealer, is in no way advised, when he purchases, that the sausage contains cereal, or cereal and added water, unless such purchaser purchased the entire package shipped to the dealer, and that even then he was not informed that the product contains added water.

Both the bill and answer contain other allegations which we deem it unnecessary to state. Issue was joined, proofs taken in open court and by deposition, and after a full hearing decree was entered dismissing the bill. The statute, C. L. Sec. 5012, under which defendants claim to justify their action, is as follows:

"An article shall be deemed to be adulterated within the meaning of this act: First, if any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity; second, if any inferior or cheaper substance or substances have been substituted wholly or in part for it; third, if any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it; fourth, if it is an imitation of, or is sold under the name of another article; fifth, if it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or in case of milk, if it is the product of a diseased animal; sixth, if it is colored, coated, polished, or powdered whereby damage or inferiority is concealed or if by any means it is made to appear better or of greater value than it really is; seventh, if it contains any added substance or ingredient which is poisonous or injurious to the health: Provided, That nothing in this act shall prevent the coloring of pure butter: And provided further, That the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food, if each and every package sold or offered for

sale bear the name and address of the manufacturer and be distinctly labeled under its own distinctive name, and in a manner so as to plainly and correctly show that it is a mixture or compound, and is not in violation with definitions fourth and seventh of this section."

Grant, J.: The following facts are admitted or established beyond controversy:

(a) The sausage manufactured by the complainant is a wholesome article of food. It contains nothing deleterious to health.

(b) It is a mixture or compound within the meaning of the proviso in the statute above quoted, being composed of meat, cereal, salt and spices.

(c) It is made in accordance with the Act of Congress and directions prescribed thereunder by the Commissioner of Agriculture, and under the inspection of the United States inspectors.

(d) Sausage is made of different kinds of meat, viz., pork, beef and veal. Whether manufactured for interstate commerce or domestic use within the State, it is sometimes made with cereal, and sometimes without it. Cereal is not a necessary ingredient to its manufacture, although it has been used by most manufacturers for many years.

(e) Water is an essential ingredient in the manufacture of sausage, whether made with or without cereal. This is shown by the evidence of the defendants. One of their witnesses, with an experience of thirty-five years, testified:

"In the manufacture of pork sausage we use pork, and if the pork is a little too fat we put in some veal or beef. It is necessary to have a little water added, a quart and a half to 100 pounds. It is pretty hard to make them without. We use a little more water than would be found in the meat when freshly killed."

Another, who had been engaged in the manufacture of sausage since 1864, testified:

"I put a little water in pork sausage. I use from five to ten pounds of water to 100 pounds of meat. Enough to make it pliable that is all. I use from eight to ten pounds of water in making beef sausage. I presume you could make sausage without water, but you could not stuff it very well."

Another who learned to make sausage in Germany, testified:

"I have always used water and still use water in the manufacture of sausage. Water is necessary. They use water in making sausage in Germany. So far as I know everyone used it."

The United States regulations require that the water used shall be pure.

(f) It is not in violation of definitions four and seven of the act. It does not violate definition seven because it contains no substance or ingredient poisonous or injurious to health. It does not violate definition four because meat is the basis and principal ingredient of the article. As manufactured by complainant, it contains from two to ten per cent of cereal. It is and has been, for more than forty years, recognized in the trade as sausage. When sold as sausage with cereal added it deceives no one, is not an imitation and the manufacturers are entitled to manufacture and label it as sausage with cereal. It is not contended that manufacturers have not the right to use the name "sausage" when sold with a proper label.

The Federal statute is practically identical with that of Michigan, and contains a proviso reading:

"That an article of food which does not contain any added poisonous or deleterious ingredients shall not be deemed to be adulterated or misbranded in the following cases:

First. In the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food under their own distinctive names, and not an imitation of or offered for sale under the distinctive name of another article, if the name be accompanied on the same label or brand with a statement of the place where said article has been manufactured or produced.

Acting under this law, the Department of Agriculture, on September 12, 1906, adopted the following regulation:

"Sausages and Chopped Meats. The word sausage without a prefix indicating the species of animal is considered to be a mixture of minced or choppead meats with or without spices. If any species of animal is indicated, as pork sausage, the sausage must be wholly made from the meat of that species. If any flour or other cereal is used the label must so state. If any other meat product is added, the label must so state."

To this regulation the department added "manufacturers are warned that the above rulings do not exempt them from the enforcement of state laws."

The learned circuit judge, in his opinion, found that sausage manufactured as is that of the complainant "is probably as healthy as pure sausage such as was known to the fathers."

Briefly stated then, the case is this: Complainant, a resident of another state, is manufacturing and shipping into this state a wholesome article of interstate commerce in strict accord with the law and regulations of the federal government. State law cannot interfere with this interstate traffic. The law here involved does not attempt to interfere with it, or to deny to the complainant the right to sell and ship its goods to retail dealers in this State. There are, therefore, but two questions material to the determination of this controversy, viz.:

(1) May the State through its legislature enact laws regulating the domestic sales of this product to consumers within the State?

(2) Does the statute above cited include the product made by the complainant?

It is not contended that the State is not clothed with the power to regulate the domestic sale of such products after their shipment into the State. Intoxicating liquor, which is a subject of interstate commerce, may be shipped into this State in original packages, but it cannot be sold within the State in violation of the State laws regulating or prohibiting its sale. No contention is made that the State statute in question is not constitutional and reasonable. Pure food laws have been enacted probably in all the states, and have been universally held valid when reasonable. The sole question therefore left to determine is whether the statute includes sales to consumers in small quantities taken from the original packages. If the domestic dealer were to sell an original package labeled as above to the consumer, such sale would be valid, because the label complies with the law and notifies the purchaser that

the article is not a sausage of meat alone, but a sausage composed of meat and cereal. It is not contended that manufacturers of sausages have not the right to label their product "sausage" with the statement added that it is mixed with other products, specifying them.

If we understand the position of counsel for complainant correctly, it is that in construing this statute courts should be governed, not by the popular and common understanding of the meaning of the word "sausage," but by its trade and commercial meaning; that is, its meaning as understood between the manufacturers and their customers to whom they sell for retail to consumers. They say:

"It is unmistakable that the legislature understood it was enacting a law with reference to an article of food which was then a subject of trade and commerce among the people. There were at times scores of different kinds of 'sausage' upon the market, that is, sausage made in different ways, a difference in the ingredients used in the various kinds, and a variance in the proportions used; and different manufacturers and dealers made and dealt in different kinds, and each knew that all this variety of meat food products were included in the term 'sausage,' and the legislature is charged with knowledge of that fact, and must be presumed to have used the term 'food' accordingly."

In support of this they cite several cases from the federal courts construing the tariff or duty acts, in which it has been held that the laws of Congress imposing duties upon imported goods must be construed with reference to the trade or commercial meaning of the articles mentioned in the law. Among the cases cited are the

Two Hundred Chests of Tea, 9 Wheaton 430;
Cadwalader v. Zeh, 151 U. S. 171;
McCoy v. Hedden, 38 Fed. Rep. 89.

In the Two Hundred Chests of Tea it was held that "bohea tea" was used in the duty act in its known commercial sense, viz.: "that article which in the known usage of the trade acquired that distinctive appellation."

In Cadwalader v. Zeh, the question was whether, under the duty act, earthenware consisting of small cups, saucers, mugs, etc., having on them pictures of animals and other objects, and letters of the alphabet, should have been assessed as toys with 35 per cent ad valorem, or as china, etc., with 60 per cent ad valorem. The case was held to depend upon the commercial meaning of the word "toys."

In McCoy v. Hedden, the question was whether curry combs were dutiable under a provision imposing a duty upon combs of all kinds. If they were not known to the trade among merchants as combs they were not held dutiable as such. These and other similar cases arose between the United States and importers of foreign goods, and do not apply to cases arising under the pure food laws of state governments. Courts will take cognizance of the well-known fact that farmers, laboring men and consumers are not generally familiar with the customs of trade and commerce in importing goods, or of understandings of the trade between manufacturers and merchants who buy those products for retail trade. Such construction would emasculate the pure food laws and

deprive the people of the protection which the legislature wisely intended to give them.

Sausage is defined by all the lexicographers as an article of food composed of meat, salt and spices. (See Worcester's and Century dictionaries). The people generally so understand it. The writer of this opinion would be compelled to admit that until very recently he had no knowledge that cereal was used in the manufacture of sausage. It is too manifest for further argument that the legislature in enacting the law was not providing for the regulation of sales between manufacturers and merchants, but between retail dealers and consumers. They enacted the law solely for the protection of consumers, the people who buy and eat the products. The consumer who prefers sausage made of meat alone is entitled to be informed that he is buying such an article. The consumer who prefers sausage mixed with cereal is entitled to know that he is purchasing that article. The contention of the complainant, if sustained, would deprive the consumer of this right which the statute plainly gives him. We cannot follow *State v. Nesland*, 120 N. W. Rep. 107, (Iowa), wherein it is held that sales in small quantities from original packages are not within the statute. In that case a pound of lard was sold from a fifty pound package properly labeled with its constituent parts, but it was held that the retail dealer was not required to label the small packages sold. That opinion is based upon the well-known rule that penal statutes must be strictly construed. The statute of Michigan expressly provides that these mixtures must be labeled showing the different kinds of ingredients contained in them. Sec. 2 is as follows:

"The term food, as used herein, shall include all articles used for food or drink, or intended to be eaten or drank by man, whether simple, mixed or compound."

This is a general statute covering all food products not otherwise specifically provided for. We consider its provisions perfectly plain, and not subject to any misunderstanding or uncertainty. To hold otherwise would substantially exclude all the benefits and protection to the people of the State which the statute was clearly designed to grant. We, therefore, hold that retail packages of small amounts taken from the original package of the manufacturer, and sold to the consumer, must be properly labeled as the law directs.

The court below dismissed the complainant's bill, thereby granting it no relief whatever. In view of the position taken by the Food Commissioner in his circulars and answer herein filed; and in view of the importance to the complainant, and to the people of the State to know under what conditions a wholesome article of interstate commerce may be sold in this State, we think the learned circuit judge should have entered a decree defining the rights and determining under what conditions complainant, as well as other manufacturers, may have their valuable and wholesome products sold by the retail dealers, and to restrain the defendants from interfering with such legitimate sales.

The Food Commissioner, as above stated, denied in his answer that the sausage made by the complainant was a wholesome product, or that it was a mixture or compound within the meaning of the act, and insisted that it was an adulteration. His attitude is further shown

by his reply to complainant's letter of January 17, 1907, asking "if there would be any objection to using cereal if such fact is stated on label same as provided by national law." He denied this permission, which was, not only a compliance with the federal law, but a compliance with the State law.

The use of cereal in the manufacture of sausage has been very general. The State Dairy and Food Commissioner of Iowa, who at the time of the hearing below had held office for five years, testified to its general use in that State, stating that "the ingredients used by the Iowa manufacturers in making sausage are chopped meats, salt, spices, flour and sufficient water." In July, 1907, he issued a bulletin stating:

"The Commissioner has no authority to establish standards for the information of the public, it is here stated that this Department will not interfere with the sale of sausage because of the presence of wholesome flour, provided that an analysis does not show more than five per cent of such flour."

It appears to be established by the evidence that sausage made with cereal is sold cheaper than that made of meats alone. If so, the people desiring to buy and eat the cheaper products should have the privilege of doing so, and such product should not by any decision of the court be prohibited from sale.

The opinion of the circuit judge does not prohibit its sale when properly labeled. He held that the trouble was not with the use of cereal, but in permitting the product to be sold at the retail counter without informing the customer that cereal is a part of it. Counsel for respondents conceded in the oral argument in this court that it was a wholesome food and was entitled to sale in this State, when sold under a proper label informing customers of what it is composed.

It is conceded that the use of cereal requires more water than does sausage made with meat alone. Anyone of intelligence would, upon reflection, know this to be the fact. The only doubt I entertain in the case is whether the label should, in addition to the words "with cereal," contain also "and water." In view of the fact that water is generally used in the manufacture of all sausage, and that no law or regulation of the Food Department has fixed the amount of water that may be used, it would seem like judicial legislation for the court to require the label to show that water is used in the manufacture.

The statute does not require the label to state the proportion of the ingredients composing the mixture, but only the names of the ingredients. The statute makes special provision for butter, cheese, lard, canned fruits, vegetables, coffee and molasses. There are other statutes governing the manufacture and sale of specific products requiring the proportions of the ingredients to be placed upon the labels, such as Act 123, Public Acts 1903; *People v. Harris*, 135 Mich. 136.

It is within the power of the legislature to pass an act specifically provided for the manufacture and sale of sausage, and that the labels should state the proportions of the ingredients used. We hold a label "sausage with cereal" upon packages sold to consumers is a compliance with the statute in labeling the mixture, and a decree should be entered so stating. A decree will be entered in this court in accordance with the above opinion. No costs will be allowed.

OFFENSES AGAINST THE PUBLIC HEALTH.

(C. L. 11404) Section 1. If any person shall knowingly sell any kind of diseased, corrupted or unwholesome provisions, whether for meat or drink, without making the same fully known to the buyer, he shall be punished by imprisonment in the county jail not more than six months, or by fine not exceeding two hundred dollars.

(C. L. 11405) Section 2. If any person shall fraudulently adulterate, for the purpose of sale, any substance intended for food, or any wine, spirits, malt liquor, or other liquor intended for drinking, he shall be punished by imprisonment in the county jail not more than one year, or by a fine not exceeding three hundred dollars, and the article so adulterated shall be forfeited and destroyed.

(C. L. 11406) Section 3. If any person shall fraudulently adulterate, for the purpose of sale, any drug or medicine, in such manner as to render the same injurious to health, he shall be punished by imprisonment in the county jail not more than one year, or by fine not exceeding four hundred dollars, and such adulterated drugs and medicines shall be forfeited and destroyed.

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